

Receipt no: 42063

APPLICATION FORM FOR RESOURCE CONSENT



Putting Northland first

Whāngārei Office	Phone:	(09) 470 1200
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This application is made under Section 88/127 of the Resource Management Act 1991

NORTHLAND REGIONAL COUNCIL
15 JUL 2016
FILE No. N.R.C.

To: Consents Department
Northland Regional Council
Private Bag 9021
Whāngārei Mail Centre
Whāngārei 0148

IMPORTANT NOTES TO APPLICANTS

- (a) Please read fully the notes below and the Information Brochures and Explanatory Notes available from the Council, before preparing your application and any supporting information.
- (b) The Resource Management Act 1991 sets out the information you must provide with your application for a resource consent. If you do not provide adequate information, your application cannot be received nor processed by the Council and will be returned to you. If you are unsure of what information should be included with your application, please contact the Council before submitting the application.
- (c) Applications require notification (public advertising/calling for submissions) unless the Council is satisfied that the adverse effects on the environment of the activity for which consent is sought will be minor; and written approval has been obtained from every person who the Council is satisfied may be adversely affected by the granting of the consent. The Council also has available a form "Form 8A – Affected Person's Written Approval", to help you record such approvals for applications that may be processed without public notification.

FILE No. N.R.C.

PART A – GENERAL

APPLICANT	Full Names
(1) Full Name of Applicant(s): <small>(in full e.g. Albert William Jones and Mary Anne Jones. For Companies, Trusts and other Organisations, commonly used name)</small>	North Western Mussels Limited
Phone Number – Business:	022 127 0883 Fax:
Home:	022 127 0883 Mobile: 022 127 0883
E-mail:	jakebartrom@gmail.com

For applications by a company, private trusts or other entity/organisations, the Directors; Trustees and Officers' full names must be supplied and Section (12) completed and signed.

(2) Postal Address: <small>(in full)</small>	North Western Mussels Limited 321 Tiki Quarry Road R01 Coromandel 3581
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(3) Residential Address: <small>(if different from postal address)</small>	
---	--

(4) Address for Service of Documents: (if different from postal address e.g. Consultant)	OPUS Consultants Whangarei
	P.O. Box 553
	c/o Mark Farrey

(5) Owner/Occupier of Land/ Water Body: (if different from the Applicant)	Coastal Marine Area

(6) Type(s) of Resource Consent sought from the Regional Council:

You will need to fill in a separate Assessment of Environmental Effects Form for each activity. These forms can be obtained from the Northland Regional Council.

Coastal Permit

- Mooring Marine Farm Structure Pipeline/Cable
 Other (specify) _____

Land Use Consent

- Vegetation Clearance Quarry Structure in/over Watercourse
 Earthworks Construct/Alter a Bore Dam Structure
 Other (specify) _____

Water Permit

- Stream/Surface Take Damming Groundwater Take Diverting Water
 Other (specify) _____

Discharge Permit

- Domestic Effluent to Land General Discharge to Land Farm Dairy Effluent to Land/Water
 Air Water
 Other (specify) _____

(7) Other Resource Consents required from the District Council:

Where other Resource Consents are required for the same activity, they must be applied for at the same time. Not doing so will delay the processing of this application.

What other Resource Consents are required from the District Council?

- None Land Use Consent Subdivision Consent
 Have the applications been made? Yes No

(8) Description of the Activity:

Please briefly describe the activities and duration for which Consent(s) are being sought. It is important you fill this out correctly, as the Council cannot grant Consent for any activity you do not apply for.

Application is for a mussel spat catching farm off the west coast of 90 mile beach. The application is for 35 years

(9) Location of Property/Waterbody to which Application relates:

Describe the location in a manner which will allow it to be readily identified, e.g. street address, legal description, harbour, bay, map reference etc. Attach appropriate plans and/or diagrams.

Property Address: _____ Locality: Ninety Mile Beach
(see rate demand)

Legal Description: _____ Blk: _____ SD: _____

Other Location Information: 3.2km offshore Ninety Mile Beach

PART B – ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

You must include an assessment of the effects of your activity on the environment as part of your application. The Resource Management Act 1991 requires that each application include an assessment of the actual and potential effects of the activity on the environment in accordance with the Fourth Schedule. To assist you to supply this assessment of effects, the Council has prepared specific forms for various consent activities. For minor activities, all that will be required is for you to complete the specific form. Where the potential effects of the activity are more significant, we recommend you undertake a full assessment of effects, with professional assistance if necessary. If you are unsure of what information to include with you application and the assessment of effects, please contact the Council before submitting your application. A pre-lodgement meeting with relevant Consent Staff is recommended.

PART C – GENERAL

(10) Renewal of an Existing Resource Consent:

Yes No A change in conditions of a current Resource Consent

(11) Fee/Deposit Enclosed with Application(s):

Application to be processed as: Notified Limited Notified Non-notified

<input checked="" type="checkbox"/> Coastal Permit: \$ <u>3217.50</u>	<input type="checkbox"/> Land Use Consent: \$ _____
<input type="checkbox"/> Water Permit: \$ _____	<input type="checkbox"/> Discharge Permit: \$ _____
<input type="checkbox"/> Bore Permit: \$ _____	<input type="checkbox"/> Change Conditions: \$ _____

(12) Signature of Applicant(s) or Persons authorised to sign on behalf of Applicant(s):

IMPORTANT NOTES TO APPLICANTS

(a) Your application must be accompanied by the minimum fee (deposit) as determined by the Council. A schedule of the fee/deposits for different consent applications is annexed. Please note that applications by private trusts and other group entities require the personal guarantees of the Trustees and/or Officers for the payment of costs to be submitted with the application.

- For complex applications, the Council may require an additional deposit pursuant to Section 36(3) of the Act, based on the estimated costs for processing such complex applications and may require progressive monthly payments during consent processing.
- The final fee is based on actual and reasonable costs including disbursements and where this fee exceeds the fee/deposit, the additional fee is subject to objection and appeal.

(b) All accounts are payable by the 20th of the month following the date of invoice. Any actual and reasonable costs, including but not limited to legal costs, debt collection fees or disbursements incurred as a result of any default in payment, shall be recoverable from the Applicant and is so notified in compliance with the Credit Contracts and Finance Act 2003. Submitting this Application authorises the Council to, if necessary, provide your personal information to a Credit Reporter in order to employ in its debt collection services in compliance with the Credit Reporting Privacy Code 2004, should payment default occur.

(c) Resource Consents usually attract an annual fee to recover the reasonable costs of the Council's monitoring, supervision and administration of the Consent during its term.

(d) The information you provide is official information. It will be used to process the application and, together with other official information, assist the management of the region's natural and physical resources. Access to information held by the Northland Regional Council is administered in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 1993.

I/we declare that, to the best of my/our knowledge and belief, the information given in this Application and attached Assessment of Environmental Effects is true and correct. I/we unconditionally guarantee jointly and severally to pay the actual and reasonable costs of processing this Application as and when charges become due and payable. I/we acknowledge that I/we understand the consequences of signing this declaration.

Signature: 
 Full Name (print): Jake Bartrom
 Date: 15th July 2016

Signature: _____
 Full Name (print): _____
 Date: _____

Continue with Trustees' and Authorised Officers' signatures below, as necessary.

Personal details and signatures of Trustees*, or Officers authorised to sign on behalf of and to bind Trusts, Societies and Unincorporated Entities. * Private and Family Trusts only

Full Name and Status: (Trustee, Officer etc)	
Full Residential Address:	
Signature:	

Full Name and Status: (Trustee, Officer etc)	
Full Residential Address:	
Signature:	

Full Name and Status: (Trustee, Officer etc)	
Full Residential Address:	
Signature:	

Full Name and Status: (Trustee, Officer etc)	
Full Residential Address:	
Signature:	

CHECKLIST – Have you remembered to...

- | | |
|---|--|
| <input type="checkbox"/> Complete all details set out in this Application Form
<input type="checkbox"/> Include an Assessment of Effects of the activity on the environment, set out in the attached form
<input type="checkbox"/> Sign and date the Application Form | <input type="checkbox"/> Include a Site Plan
<input type="checkbox"/> Include the appropriate fee/deposit as set out in the "Schedule of Fees"
<input type="checkbox"/> Complete details of Trustees and/or Authorised Officers on this page |
|---|--|



Spat Collection - Te Oneroa a Tohe (90 Mile Beach)

Assessment of Environmental Effects

Ninety Mile Beach Marine Farm



Spat Collection - Te Oneroa a Tohe (90 Mile Beach)

Assessment of Environmental Effects

Ninety Mile Beach Marine Farm

Prepared By



.....
Elisha Oldridge
Environmental Planner

Opus International Consultants Ltd

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Reviewed By



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Team Leader - Planning

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Date: 15/07/2016

Reference: 1-19472.00

Status: Final

Approved for
Release By



.....
Mark Farrey
Team Leader - Planning

Contents

Introduction.....	2
1.1 Scope and Objectives.....	2
2 Proposed Activity	4
2.1 Location	4
2.2 Concept Description.....	8
2.3 Staging.....	9
2.4 Operation	10
2.5 Construction	12
3 Existing Environment	13
3.1 Water.....	13
3.2 Land/Shore.....	14
3.3 Visual.....	14
3.4 Ecology.....	16
3.5 Air	16
3.6 Community	17
4 Potential and Actual Effects to Environment.....	18
4.1 Positive Effects	18
4.2 Alternative Options	18
4.3 Water.....	18
4.4 Land/Shore.....	20
4.5 Visual.....	21
4.6 Ecology.....	21
4.7 Air and Noise	24
4.8 Community	25
5 Monitoring.....	26
5.1 Visual Observations and Recordings	26
5.2 Water Quality Monitoring	26
5.3 Benthic Monitoring	27
6 Statutory Assessment.....	29
6.1 Resource Management Act 1991	29
6.2 New Zealand Coastal Policy Statement 2010	32
6.3 Northland Regional Coastal Plan	34
7 Conclusion	41
8 Glossary of Terms	42
9 References	43

1 Introduction

The New Zealand Green Lipped Mussel (*Perna canaliculus*) is a native shellfish consumed by a large population and supports a large national aquaculture industry. The industry is primarily dependent on mussel juveniles (spat) which are collected from the surf zone of Ninety Mile Beach. It is thought that Ninety Mile Beach contains unique environmental conditions that cause the accumulation and transport of spat attached to drift seaweed. This can arrive to the shore in great quantities and is collected and transported to mussel farm facilities (Alfaro, 2001).

North Western Mussels Limited, the Applicant, intend to develop a marine farm with the primary purpose of collecting Mussel Spat off Ninety Mile Beach. From here in the proposed development is referred to as the “spat farm”.

In 2012 the Applicant started a research program on the west coast of the North Island to establish the viability of a commercial spat catching operation. The program consisted of installing, maintaining and monitoring mussel spat catching stations to collect and analysis data on the settlement of mussel spat in the water column. The program started by the granting of a Resource Consent by the Auckland Council to research the west coast off Manukau Harbour, north towards Muriwai and south to Port Waikato in the Tasman sea. In 2014 the applicant was granted a Resource Consent by the Waikato Regional Council to undertake research in the Tasman Sea off the west coast of Kawhia. In 2015 the Applicant was granted another Resource Consent by Waikato Regional Council to research off the west coast of Raglan. In August 2015 the Applicant was granted a Certificate of Compliance by the Northland Regional Council to undertake spat monitoring research off the west coast of Ahipara / Ninety Mile Beach. The Applicant was also granted approval by the Ministry of Primary Industries to take wild mussel spat for the purpose of research.

Research off Ninety Mile Beach has shown commercially viable settlements on spat catching ropes. To date the research has shown no predictability to the settlement. Research shows that spat concentrations are greater at shallower depth, and declining towards the seafloor. Tide flow research shows the tidal movement is parallel with the coast which aligns with the positioning of the proposed spat farm. The water visibility was monitored using a Secchi disk and showed that visibility is easily good enough to perform farm structure maintenance using scuba divers. Research shows that conventional sub surface long line techniques would be most suited to the environment managed by the latest mussel farming industry vessels.

Due to the fact the proposed spat farm involves marine farming within the Marine 2 (Conservation) Management Area (M2MA), it is classified as a Discretionary Activity under the Regional Coastal Plan for Northland.

1.1 Scope and Objectives

As the proposed development is a Discretionary Activity under the Regional Coastal Plan, it is up to Northland Regional Council’s (NRC) discretion whether or not to give consent. In order to apply for a consent the following must be provided:

- A description of the proposed activity;

- An assessment of potential and actual effects;
- Assessment of the activity against Part 2 and section 104(1)(b) of the *Resource Management Act 1991*, relevant National and Regional Policy Statements, all relevant provisions of the Regional Plans;
- Notification to relevant stakeholders; and
- Consultation with relevant stakeholders including the local community and iwi/hapu

The objective of this report is to present the above scope in sufficient detail to allow a thorough and efficient assessment by NRC.

2 Proposed Activity

2.1 Location

The proposal involves utilising three areas of water space (**Figure 1**). Each area would be 3.2km off shore and run parallel to the shoreline northwards for 1,900m in length and west 1,300m wide. Within each area a maximum area of 180 ha of space would be farmed and 67 ha of space unfarmed for navigation passage.



Figure 1: Site Location

2.1.1 Site 1

Site 1 is located towards the northern end of 90 Mile Beach. Its location and GPS co-ordinates for its four corners are provided below in **Figure 2**.



Figure 2: Site 1 location and GPS Coordinates

2.1.2 Site 2

Site 2 is located half way along 90 Mile Beach. Its location and GPS co-ordinates for its four corners are provided below in **Figure 3**.

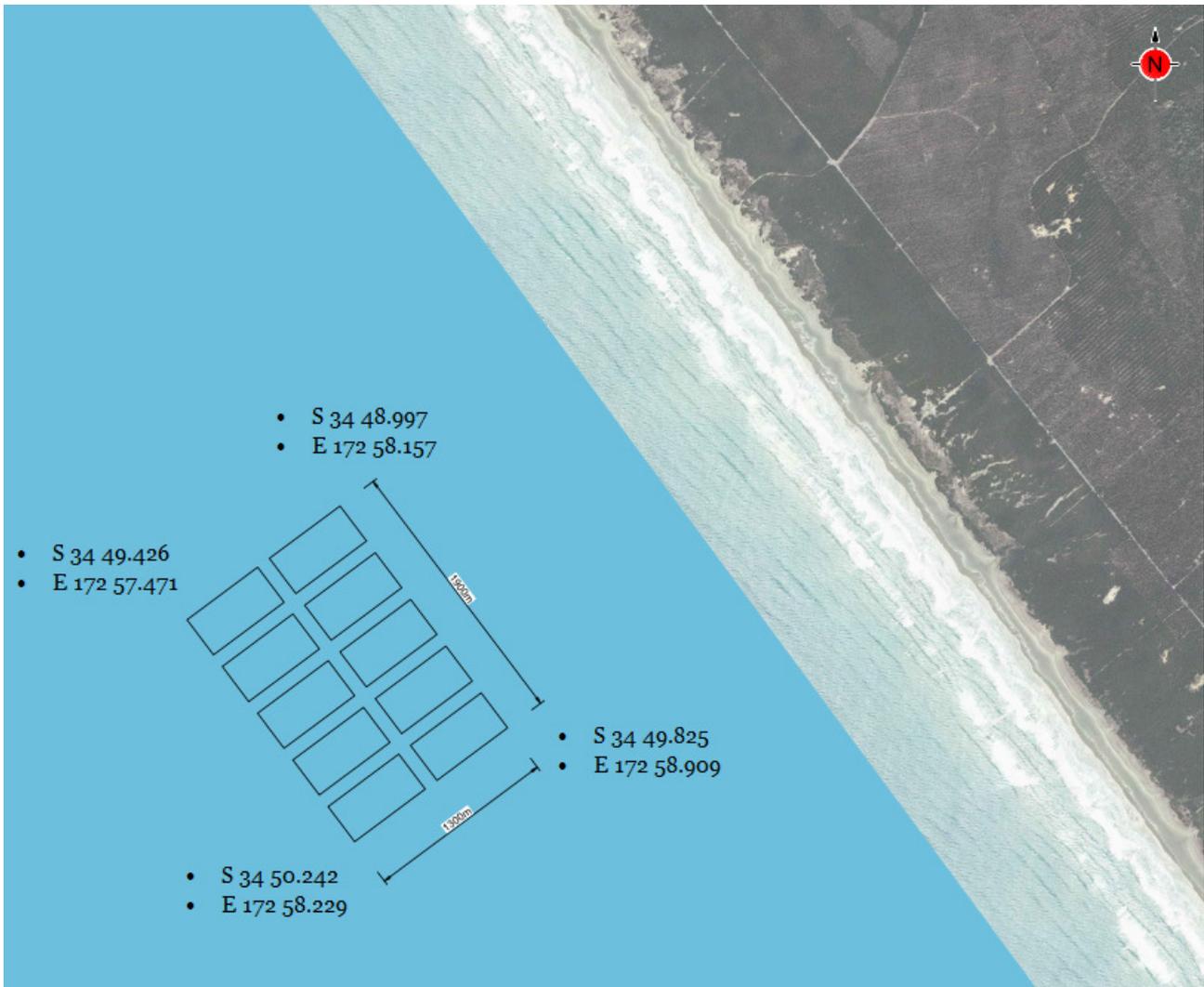


Figure 3: Site 2 location and GPS coordinates

2.1.3 Site 3

Site 3 is located at the southern end of 90 Mile Beach. Its location and GPS co-ordinates for its four corners are provided below in **Figure 4**.

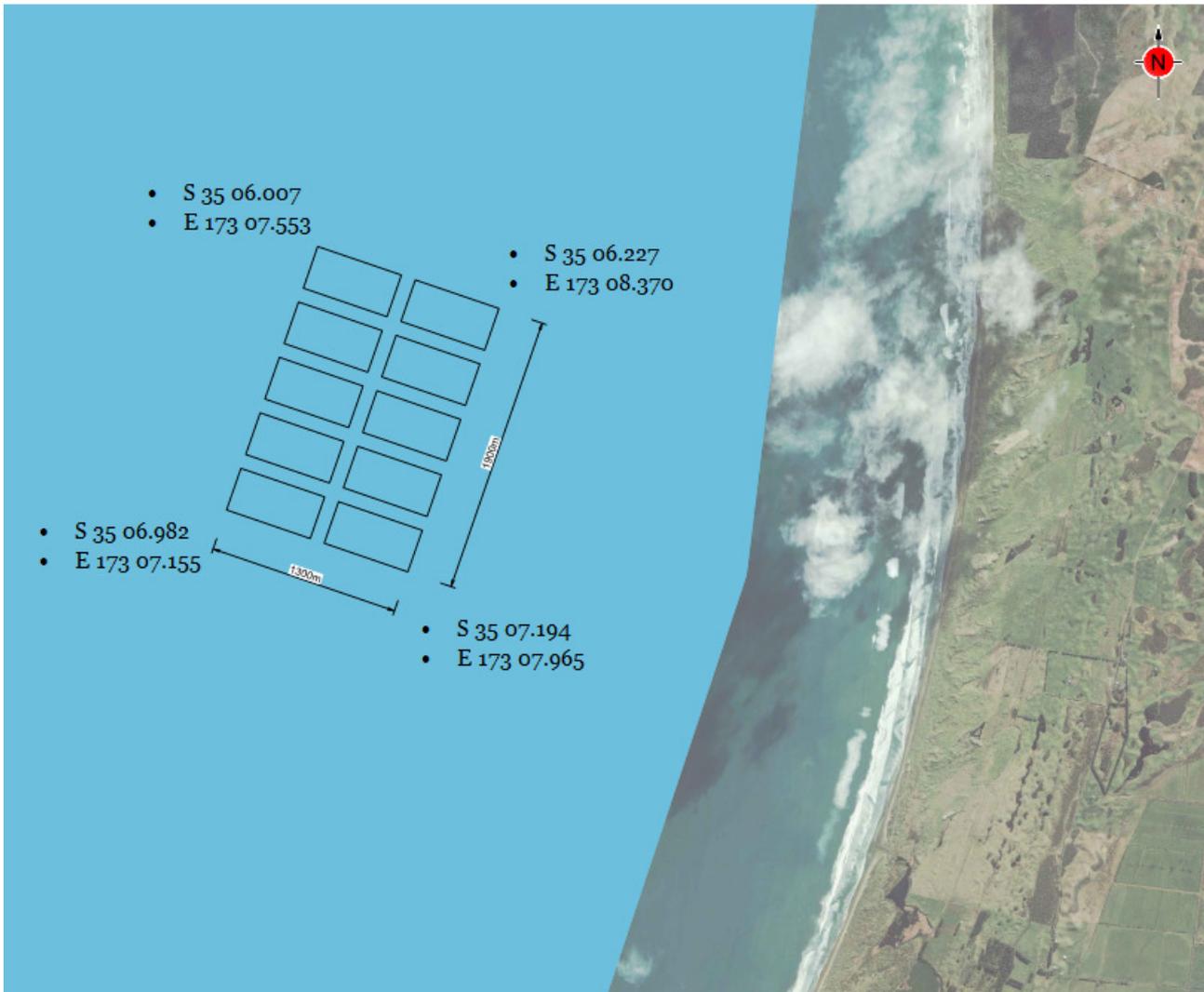


Figure 4: Site 3 location and GPS coordinates

2.2 Concept Description

The spat farm will operate by suspending ropes in the water column which attract the attachment of mussel spat. The ropes will be attached to frames which will be set up in a long-line arrangement. Plans outlining the arrangement are attached in **Appendix A**. A representation of what will be visible on the surface has been provided in **Figure 5**. The details are as follows:

- a. Backbone lines (horizontal)
 - i. All backbone lines will be sub-surface lines (approximately 3m deep) and will be orientated parallel to tidal flows. They will consist of both single and double backbone lines.
 - ii. The visible surface length of the backbone lines will be ~ 180 m (depending on exposure and depth).
 - iii. Backbones will be grouped into blocks. Each block containing 21 backbone lines positioned parallel to each other. Each backbone line within a block will be separated by a distance of ~ 30 m. Accordingly each block will be 18 ha in size. Each block will be separated by a navigational lane, each a width of 100 m.
 - iv. The backbone line rope will consist of Duradan (synthetic rope) of 28-40mm diameter.
- b. Dropper lines (vertical)
 - i. The dropper lines will be ~ 8 m long. These lines consist of a rope with a frayed-like appearance.
- c. Structure Anchors and Mooring Lines
 - i. The anchors used to secure the mooring lines to the seabed will consist of screw anchors. They will be buried to a depth of approximately 6-12 m depending on the substrate.
 - ii. The mooring line lengths will be between approximately 50 – 75m (depending on depth).
- d. Buoys
 - i. The single backbone lines will be supported by 20-300 litre buoys.
 - ii. The double backbone lines will be supported by 20-300 litre buoys.
 - iii. The buoys will be separated by 2-10 m distance (depending on the length of dropper lines).
- e. Navigation and Lighting
 - i. The two end floats on each back bone will be orange
 - ii. An orange buoy will be attached at the mid-point on each of the outside long lines on each block
 - iii. Reflectors will be placed on the corners buoys of each block.
 - iv. Yellow flashing lights will be placed on 100m outwards of each corner of the spat farm.
 - v. Perimeter lights will be placed at each 950m interval and 650 interval along the length and width respectively 100m outside the edge of the spat farm.



Figure 5: Representation of what will be visible on surface

2.3 Staging

The spat farm will be constructed in Stages 1 through to 3. Progression from one stage to another is not guaranteed. Progression will depend on viability, and whether monitoring results obtained from the existing stage indicate minor impact has occurred. Monitoring is detailed later in **Section 5**. The stages are as follows:

- Stage 1 –
 - » Site 1: Two blocks will be constructed, with each block being 18 ha in size this equates to 36 ha of farmed space.
 - » Site 2: Two blocks will be constructed, with each block being 18 ha in size this equates to 36 ha of farmed space.
 - » Site 3: Two blocks will be constructed, with each block being 18 ha in size this equates to 36 ha of farmed space.

In total this would be 108 ha of farmed space.

- Stage 2 –
 - » Site 1: Three blocks will be constructed, with each block being 18 ha in size this equates to 54 ha of farmed space.
 - » Site 2: Three blocks will be constructed, with each block being 18 ha in size this equates to 54 ha of farmed space.
 - » Site 3: Three blocks will be constructed, with each block being 18 ha in size this equates to 54 ha of farmed space.

This would be a further 162 ha of farmed space. In total there would be 270 of farmed space.

- Stage 2 –
 - » Site 1: Five blocks will be constructed, with each block being 18 ha in size this equates to 90 ha of farmed space.
 - » Site 2: Five blocks will be constructed, with each block being 18 ha in size this equates to 90 ha of farmed space.
 - » Site 3: Five blocks will be constructed, with each block being 18 ha in size this equates to 90 ha of farmed space.

In total this would be a further 270 ha of farmed space. In total there would be 540 ha of farmed space

- Upon granting of the resource consent 108 ha will be allocated to Iwi for their development.

2.4 Operation

At Ninety Mile Beach, mussels mostly spawn between June and December (Alfaro et al. 2001; Alfaro et al, 2003), however they can spawn throughout the year. From the time of spawning and fertilisation mussels start their life as free swimming larvae for approximately 3-5 weeks, after which they settle as microscopic spat onto a catching medium. In natural circumstances spat will attach to a medium such as seaweed (**Figure 6**). The entire purpose of the spat farm is to encourage spat to attach to a dropper rope.

From the time the microscopic spat attach to the medium it takes approximately 6 weeks until they are visible. By the time of harvest they are generally around the size of fingernail (**Figure 7**).

Overall the harvesting cycle occurs within a 3-6 month cycle throughout the year.

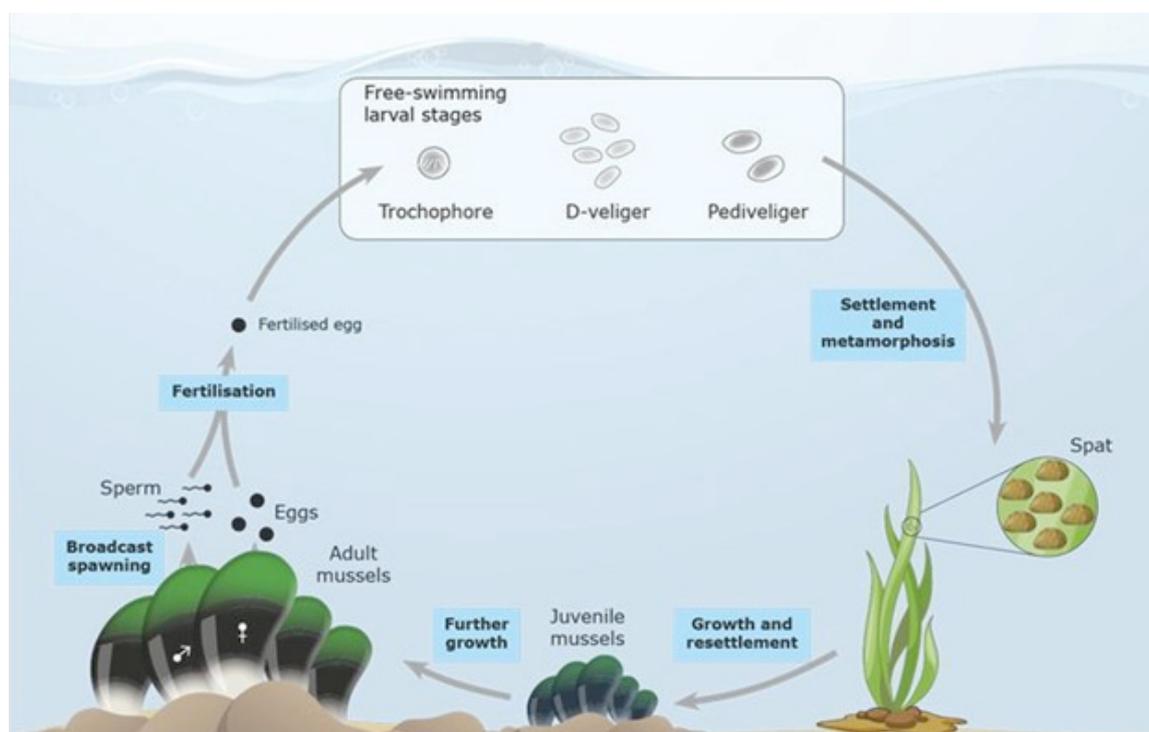


Figure 6: Mussel Life Cycle (University of Waikato)



Figure 7: Spat on a rope

General servicing and maintenance activities will occur between harvests. Each line will need to be inspected at least on a monthly basis to assess structural integrity and rectify any general wear and tear. The most common maintenance activities expected include:

- Tightening ropes and fittings;
- Replacement of worn ropes;
- Fixing or replacing navigational lights;
- Fixing or replacing buoys; and
- Inspecting and tightening anchors.

All harvesting and maintenance activities will be undertaken from specialist vessels. In the beginning stages only a single vessel would be required. In the later stages approximately three vessels might be required.

2.4.1 Shore and Land Based Activities

In order to support the operation on the water, shore and land activities will be required. These facilities will be based around Houhora. Specialist vessels will base themselves in Houhora Harbour and utilise weather windows to travel around Cape Reinga and down to Ninety Mile Beach to work the favourable weather patterns.

A supporting land base will operate at a local address in order to provide storage for equipment and vessels. The land base will also provide parking and toilet facilities for staff to avoid any additional pressure on public facilities in Houhora. The facilities and parking would be provided in accordance with requirements stated in the District Plan.

2.5 Construction

Construction of the blocks will be undertaken by specialist contractors. One block (18ha) would be constructed at a time with a 4-5 person team. The construction process consists of:

- Installing screw anchors.
 - » Each 18 ha block has 21 lines, each line as 2 screw anchors (1 at each end). This equates to a total of 42 anchors per block. For the whole of stage one (6 blocks) that is 252 anchors.
 - » The anchors are installed with the use of a drill operating from a surface vessel. A diver will guide the anchor into position. The anchors will be drilled to approximately 6-12 m into the substrate. Because the substrate is expected to consist only of sand, minimal resistance and disturbance is expected.
- Once the anchors are in place, the lines and buoys would be attached. Navigation and lighting would then be installed to the buoys.
- Finally, the dropper lines would be hung out to catch spat.

3 Existing Environment

The purpose of this section is to establish the existing baseline condition of Ninety Mile Beach and its surrounding environment. Only once the baseline condition is known can potential effects to this condition be assessed in **Section 4**.

3.1 Water

Overall, the west coast of Northland is exposed to almost continuous onshore oceanic swells that cause turbulence, turbidity and sediment movement in shallow marine and intertidal habitats. Accordingly marine species occupying the Ninety Mile Beach environment are few and hardy (Northland Coastal Plan, 2003). The coast at Ninety Mile Beach is exposed to a strong hydrodynamic regime. This regime is due to the predominantly south-westerly winds and swells, and the confluence of the northbound Westland and the southbound West Auckland currents (Alfaro, 2001). Reef Point, to the South of Ahipara Bay, provides a small amount of protection to this section of Ninety Mile Beach from the strong south west winds.

Towards Site 3 (southern site) a number of streams flow from the Herekino Forest, south of Ahipara, into the Wairoa Stream. The Wairoa Stream runs through agricultural areas, through the residential area of Ahipara and then into Ahipara Bay (**Figure 8**). A number of residential houses are set back from the Ahipara Bay due to the location of the Wairoa Stream.

The Wairoa Stream is considered to have poor water quality due to intensive agriculture in its catchment. Due to the strong hydrodynamic regime of Ahipara Bay, it is usually more than capable of flushing and diluting any such impacts from Wairoa Stream or surrounding land activities. The water at Ahipara Bay complies with bathing monitoring standards >95% of the time. However, there has been a recent occasion at the end of 2014 when elevated levels of bacteria were recorded following heavy rainfall and significant discharge from the Wairoa Stream (NRC, 2015).

There is less detailed information available regarding streams near Sites 1 and Site 2. These sites are located adjacent to much more isolated land than Site 3. The water catchments on this land are relatively undisturbed and situated in areas of intact ecosystems. Accordingly the water quality in the adjoining ocean is expected to be quite high.

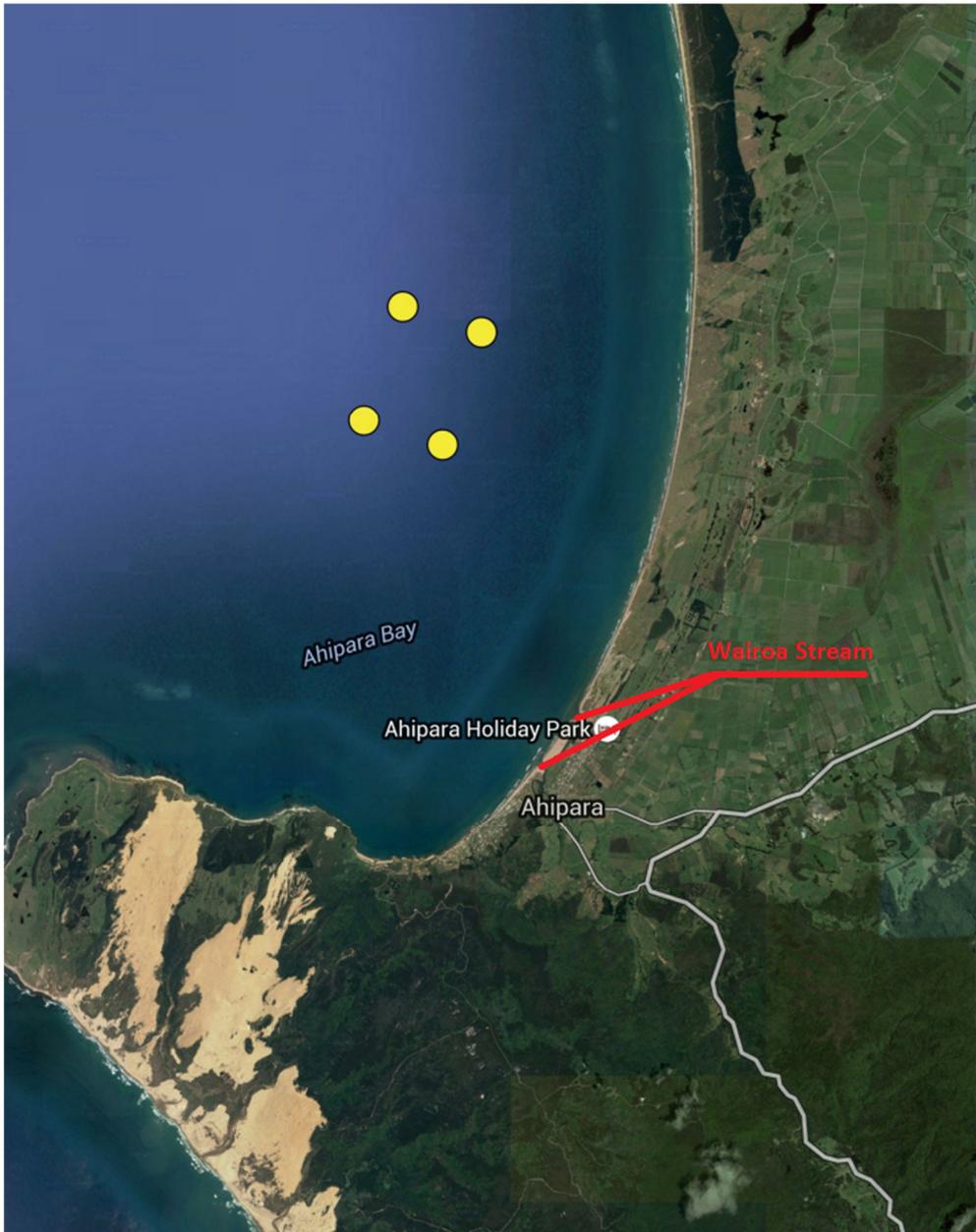


Figure 8: Site 3 Ahipara Bay and Wairoa Stream

3.2 Land/Shore

Ninety Mile Beach is well known for its long arching white sand beach. Its west coast location means it is exposed to high swells resulting from New Zealand's primarily westerly wind patterns.

The beach at Ahipara Bay, adjacent to the Site 3, is open and exposed to wave and wind shaping forces. The cross sectional profile of the beach consists of a typical fore dune and hind dune system. The fore dune along much of the beach has suffered a substantial amount of erosion following recent storm events.

The land surrounding the beach has primarily been cleared for residential housing and agriculture. The majority of housing is located on the flat area between the dunes and the hills, although there are a number scattered throughout the sand dunes and built into the steep hills. The residents are serviced by a full reticulation and sewerage system (located on Sandhills Road) which is treated by oxidation ponds and wetlands with land based disposal.

There are a number of vehicle access points located along the beach. The beach is classed as a highway and vehicles are allowed to drive on the beach, provided they stay off vegetation and stay clear of nesting birds. The beach is used for fishing and shellfish (pipi) collection. While recreational activities do occur on this section of beach, other locations to the south are more popular for bathing, and locations to the north are more popular for surfing, kite surfing and tourist adventures.

Site 2 is located half way along Ninety Mile Beach. The coastal terrestrial area is back dropped by forestry and behind that productive farming primarily being agricultural grazing for dairy, sheep and beef.

Site 1 is situated 3.2km south of Scott Point. The coastal terrestrial area is mostly undulating. In some areas large dunes and sand sheets are located on upper terraces and elevated well above the coastal edge. Most of the land is grazed with some reverting to native bush cover. Pockets of native vegetation are found along the steeper coastal escarpments and in poorer soils and sand dune areas.

3.3 Visual

The majority of residential housing in Ahipara town adjacent to the Site 3 (southern site) is concentrated around the Wairoa Stream (**Figure 9**). Ocean views are provided to the houses located on the southern side of Wairoa Stream, but ocean views are limited on the northern side of the stream due to the topography in between the houses and the ocean.

Large interrupted views are only available to houses located on hills. These houses have views of Ahipara Bay. Those views consist primarily of cleared agricultural land to the east and open ocean to the west. The open ocean does not currently contain any fixed visible structures.

Site 2 (mid site) is back dropped by commercial forestry and over 40km from Ahipara town. There is are no residential houses or settlements adjacent to the Site 2

Site 1 is 3.2km offshore from Scott Point. There are no residential housing or settlements adjacent to the Site 1. The only views available from Scott Point are provided from a walking track that winds around the coast from Cape Reinga to Ninety Mile Beach.

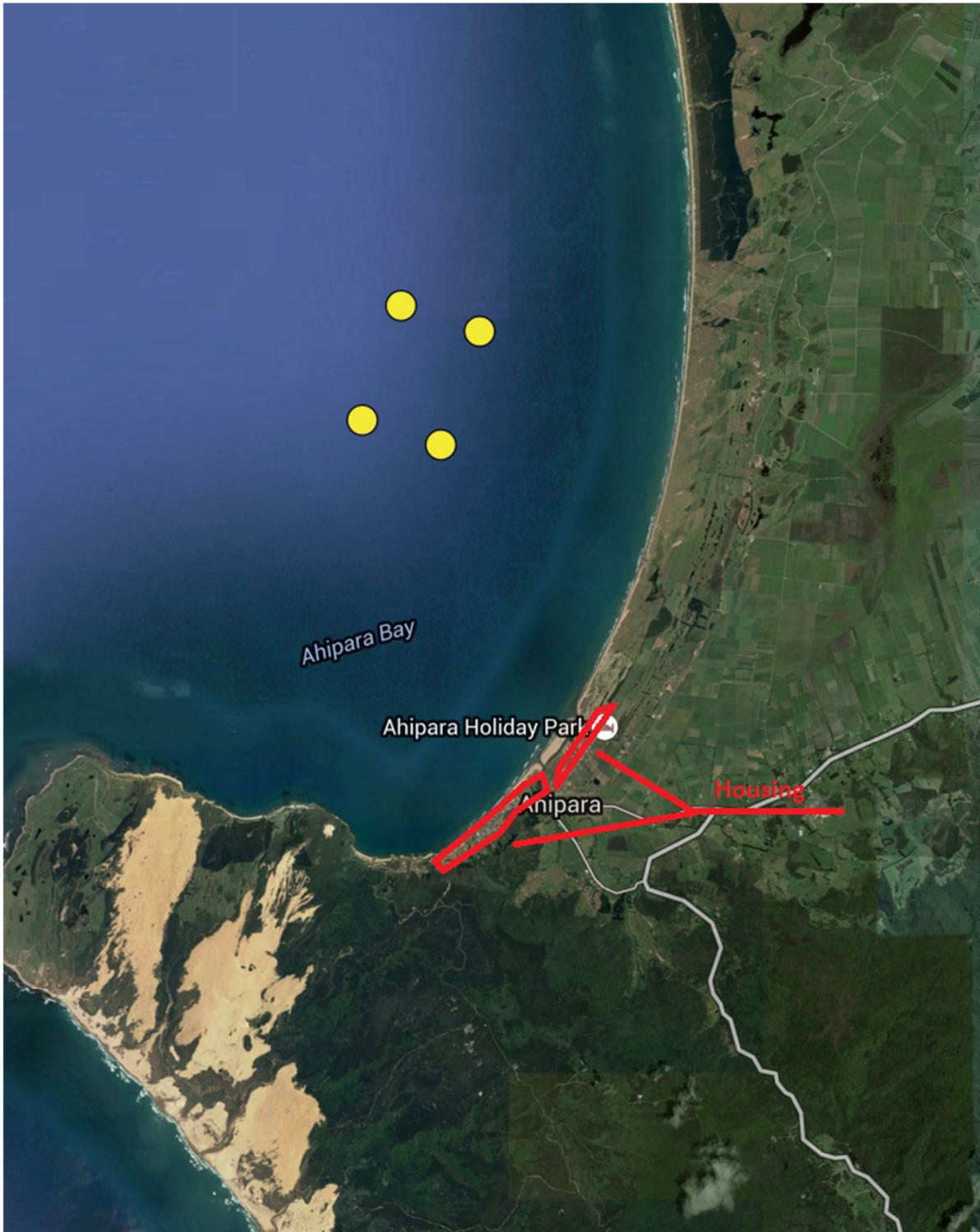


Figure 9: Location of Residents

3.4 Ecology

Overall the west coast of Northland is exposed to almost continuous onshore oceanic swells that cause turbulence, turbidity and sediment movement in shallow marine and intertidal habitats.

Marine species accordingly species occupying this environment are few and hardy (Northland Coastal Plan).

There are some sections of reef, particularly at the southern end of the Ahipara Bay, all sites aim to avoid placement over or near these reefs. The reefs contain encrusting invertebrates, red algae and a range of reef associated fish species. Local fishing charter websites refer to Snapper, Gurnard Trevally, Kingfish, Hapuku and Terakihi as being commonly found in Ahipara waters. Ninety Mile Beach is an important feeding area for variable Oystercatcher and Capsian Tern. As well as spat, the beach has high numbers of Toheroa (Niwa, 2005).

3.5 Air

Ninety Mile Beach is in the front line of the prevailing westerly wind from the Tasman Sea, thus there is continual air movement and renewal. The majority of land in Ahipara is low density residential and agricultural. The town lacks any major roads/highways or traffic congestion. There are no major industries with air emissions near this area.

3.6 Community

Ahipara is a small coastal settlement with a population of 1,065 (2013 Census). Ahipara's top industries based on employee count are:

- Education and Training (59%);
- Agriculture, Forestry and Fishing (14%); and
- Accommodation and food services (11%).

Ahipara's nearest port is Hokianga Harbour, and its nearest commercial airport is Kaitaia. Due to its proximity, Ahipara is often referred to as a satellite town of Kaitaia (Ahipara Community Plan, 2012). Ahipara Village has a primary school, superette, and a number of eating establishments and service station.

4 Potential and Actual Effects to Environment

The purpose of this section is to establish the potential effects a marine farm can have on the environment. This section includes:

- Describing potential positive effects;
- Describing alternative options; and
- Describing potential and actual negative effects.

Potential negative effects have been drawn from the *Guidelines for Aquaculture Management Areas and Marine Farms* (Maritime NZ, 2005) and the *Overview of Ecological Effects of Aquaculture* (MPI, 2013). From here in these are referred to as “the guidelines”.

Once the potential risks have been identified, the effect avoidance, management and mitigation measures are taken into account and the actual effects for this specific project are identified.

4.1 Positive Effects

The proposed spat farm will provide a locally-run enterprise to the region of Ahipara. This enterprise may provide employment opportunity in an area with an unemployment rate 12% (Statistics New Zealand, 2013). It offers an alternative and more reliable method to catch spat than is currently available.

4.2 Alternative Options

4.2.1 Not Building the Spat Farm

The first alternative option involves not building the spat farm, thus continuing only to collect spat attached to washed-up seaweed on Ninety Mile Beach. This method is not entirely reliable (the right conditions need to be in place for the seaweed to wash up), and the method is less passive than the spat farm. It involves physically removing spat with the use of tractors in the surf zone. It also involves removing seaweed which would otherwise remain in the Ninety Mile Beach ecosystem.

4.2.2 Utilising a Full Scale Marine Farm

The second alternative option involves utilising a full scale marine farm. A full scale farm would raise mussels from the spat stage all the way to an edible adult size. A farm of this scale is not practical or feasible at this location. A full scale farm requires much higher levels of input and resources, thus impact on the existing values of Ahipara Bay and Ninety Mile Beach would be greater than a spat farm.

4.2.3 Locations

The location was chosen following discussion with some community members including long liners, recreational and commercial fishermen. Following this discussion, it was agreed that the spat farm should be located 3.2 km from shore and run in a parallel direction with the shore. The chosen location is situated in a location that does not interfere with vessels using Ahipara bay as an anchorage, whether they are for commercial or recreational purposes.

The location also has the least impact on shore recreational activities. It is located northwards of the most popular camping and bathing locations and south of tour group adventures on Ninety Mile Beach.

4.3 Water

4.3.1 Water Flows

In accordance with the guidelines, the placement of solid structures in a marine environment has potential to interfere with the flow of currents. Large solid structures may change water flow and speed by increasing the drag on water which in turn reduces current flow within farms and increases velocities under farms (Ministry for Primary Industries, 2013). Currents are important to the marine environment as they carry food and oxygen to marine farms and other ecological communities, remove wastes and affect sedimentation rates. The hydrodynamic effects of marine farms vary dependent on the existing water flow of the area and the density of the marine farm structures. (MPI, 2013).

The spat farm is specifically designed to be as open, passive and subsurface as possible in order to allow currents and waves to pass through. The unimpeded movement of flow is vital to the continued operation of the spat farm. Given the depth of water, distance from shore and spacing density, combined with the strong hydrodynamic regime in Ahipara Bay and Ninety Mile Beach, minimal impact is expected on water flow.

4.3.2 Water Quality

The guidelines also focus on the impact to water quality.

- On one hand, because mussels are filter feeders, in excessive numbers they can deplete the availability of nutrients and plankton in the water column
- On the other hand, in large numbers they can overload the bottom substrate with faeces, pseudo-faeces and waste following death. This can cause the reverse situation where overloading of nutrients can occur.

On this project the mussels will only be collected at a juvenile spat stage, after which they will be removed from the farm and transported elsewhere. Accordingly in comparison to an adult mussel farm, the quantity of nutrients and plankton consumed, and the quantity of waste generated is far lower.

As previously discussed, there is a strong hydrodynamic regime on Ninety Mile Beach. The spat farm will be situated in a marine environment with exposure to strong flows. Accordingly, the water within the marine farm will be continually flushed and refreshed.

Given the small the low quantity of nutrients and plankton consumed, and the quantity of waste generated, combined with the continual flushing and refreshing of water, it is unlikely the spat farm would have a negative impact on the water quality of Ninety Mile Beach.

4.3.3 Sediment Movement

As per the guidelines, the installation of a marine farm has potential to impact on the sea bed, particularly in relation to the effects of sedimentation movement. Placing structures in the seabed can form potential barriers to sediment transportation.

The only direct disturbance to the sea bed will involve the installation of screw anchors to 6-12 m depth. They have a very minimal exposed area on the surface, thus have minimal potential to block the transport of sediment. Given that the substrate is primarily sandy, minimal disturbance should be required to install them.

As previously discussed, the coast of Ninety Mile Beach is exposed to a strong hydrodynamic regime. The continuous onshore oceanic swells cause turbulence, turbidity and sediment movement. In such conditions it may be expected that within days of installation these anchors will be entirely buried.

4.4 Land/Shore

4.4.1 Shoreline

When placing structures near a shoreline, there is the possibility that the structures may interfere with wave action and possibly impact on sediment deposition on the shore. Large solid structures can refract wave energy resulting in altered sand deposition patterns on the beach. As described previously, Ahipara Bay and Ninety Mile Beach is reliant on unimpeded wave and wind forces to replenish the foredune system. This is particularly relevant now as substantial erosion of the foredune has occurred during recent storm events.

The spat farm will be a passive, open and submerged structure situated 3.2 km offshore out of the surf zone. The structure is designed so that it can dip and raise with any wave or current action. The components are primarily “soft” meaning they will also sway with wave and current action. Accordingly, there is minimal potential for the structure to refract or dissipate wave energy. Significant alterations to sediment deposition on the beach are not expected.

4.4.2 Land Infrastructure

Without adequate planning the construction and operation of a spat farm can result in strain on land based public infrastructure. To construct and operate, support services are required on the land. Storage is required for equipment, staff need to park their vehicles and need to utilise toilets etc.

The marine farm will be constructed in 18ha blocks which will be set up by approximately 4-5 workers utilising one vessel. Accordingly, no additional road/parking/boat traffic will be generated by the construction of the spat farm.

Operational activities are only expected to generate minor increases to road/parking/boat traffic. As identified in Section 2.4, a supporting land base will operate at a local address in order to provide storage for equipment and vessels. The land base will also provide parking and toilet facilities for staff to avoid any additional pressure on public facilities in Houhora. The facilities and parking would be provided in accordance with requirements stated in the District Plan.

By ensuring that the land base is upgraded and provides appropriate facilities there will be a no more than minor increase in volumes of traffic on the roads, people utilising public facilities such as toilets or the boat ramps.

4.5 Visual

As described in the guidelines, marine farms have the potential to change the visual amenity of a location. This is due to the fact they are large in size and utilise visual navigation and lighting structures.

4.5.1 Horizon

The level of impact will depend upon the location, distance and height of the observer relative to the spat farm. This is a result of the curvature of the earth which determines the distance of the observable horizon. The equation that roughly defines this distance to horizon is as follows:

Square Root (height of observer in centimetres / 6.752) = distance to horizon in kilometres

- For a person swimming with their eyes 20cm above the water – their observable horizon is approximately 1.7 km. The spat farm (3.2km off shore) would be beyond their horizon.
- For a person of 170 cm height standing on the beach – their observable horizon is 5 km. The spat farm would appear approximately two thirds the way out to their horizon.
- For a person situated 50m up a hill – their observable horizon is approximately 27 km. The spat farm would appear well before their horizon.

4.5.2 Line of Sight

Line of sight is blocked by certain factors. As mentioned in Section 3.3 many of the houses on the northern side of Wairoa Stream do not have ocean views as they are blocked by the topography.

Beach users will typically be unable to see past the surf zone. The average wave height off shore of Ninety Mile Beach is approximately 3 m (measured peak to trough), equating to 1.5 m (ocean surface to peak). As waves approach the shallow depth of the shore they condense and their height increases. The average wave height in the surf zone (ocean surface to peak) is likely to be at least 2 – 2.5 m. Thus blocking line of sight to the spat farm for beach users.

4.5.3 Distance and Magnification

For those properties located on a hill that have large horizons and full line of sight, distance comes into play. These properties are generally located on the southern side of Wairoa Stream and approximately 6 km distance from the closest edge of the marine farm.

The only visible parts of the spat farm will include the floating buoys and navigational lights. At a distance of 6 km it would be extremely difficult to see the buoys, particularly in the ongoing swell. The lights would be visible, but only at night. The lights are only navigational indicators, they do not direct a beam of light towards the shore.

The vessel that will be utilised in the farming operations will be barely visible from the mainland as they operate between 3.2km and 4.5km out to sea while working the spat farm.

4.6 Ecology

4.6.1 Competition for Resources

The guidelines require the consideration of the uptake of phytoplankton and zooplankton by mussels. As they are filter feeders, in large numbers they have potential to reduce plankton availability for other species in the surrounding area. This can impact natural communities and natural marine farms, particularly if the local system is already at carrying capacity. The amount of plankton uptake/ depletion by the filter feeders depends on the filtration rate and the water flow through and around them.

While the spat farm utilises mussels that naturally exist in the ecosystem, it will increase the concentration of spat within the Spat Farm. However, as discussed in Section 4.2, the mussels are only being collected at a juvenile spat stage. At this stage their demand for resources is low, they are then removed from the ecosystem and transported to grow to adult stage elsewhere.

Given the strong hydrodynamic regime and continual flushing of Ninety Mile Beach there is continual renewal phytoplankton and zooplankton availability. In combination with the fact the spat have only a small demand for these resources, the impact is considered to be no more than minor.

4.6.2 Nutrient Cycling

Section 4.3.2 describes the potential and actual impact of the spat farm on nutrients.

4.6.3 Biosecurity

The guidelines describe how during operation of a marine farm there is a risk that pests and diseases can be introduced into the local ecosystem. This is usually a result of farming a species that isn't necessarily native to the area. However using vessels and equipment from other areas can also introduce unwanted pests.

The spat farm is utilising the existing spat stock native to Ninety Mile Beach, accordingly no new species will be intentionally introduced into the ecosystem.

In terms of unintentional introduction of species, this can happen if material such as ropes are used in one location then transported to a new location. Unwanted species may attach themselves to the rope, thereby gaining access to a new location when the rope is moved.

The applicant proposes to manage the bio security risk to the Northland region by effective risk management and methods of exclusion, eradication and quarantine.

Method 1: New rope

- i. Use new rope.
- ii. No biomass is present on new rope and therefore no action is required when using new rope.

Method 2: Used rope

Used rope transferred to 90 mile beach from other locations will undergo the following procedures before being place in the ocean;

- i. Rope is brushed through rope pulling machine (standard operating procedure)
- ii. Rope is run through a sodium hypochlorite bath to kill all biomass

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- iii. Rope is quarantined out of water for 30 days before redeployment

4.6.4 Entanglement

The guidelines indicate that marine farms can create a risk to marine mammals. This is because there is the potential for large mammals to become entangled in the lines. In New Zealand there have been no reported cases of dolphins or seals becoming entangled in mussel farm lines, although one Bryde's whale has been reported as a casualty of entanglement in mussel spat catching lines (Environment Foundation, 2015). Entanglement is currently not a significant issue in New Zealand but it does have the potential to become so if large marine farms are established in areas which are significant for mammals, such as migratory paths for whales.

The diagram in **Figure 10** shows significant areas for mammals in New Zealand. Ninety Mile Beach has no significance to marine mammals, the closest area of significance is the whale's summer migration route which runs southward down the west coast of New Zealand, at a substantial distance west of Ninety Mile Beach. The distance between the mussel farm dropper lines is considered enough space for dolphins and the majority of whales to swim through the lines. The marine farm will be regularly monitored and maintained therefore any issues of entanglement would be noticed and addressed



Figure 10 Areas of special significance for marine mammals in New Zealand (DOC, 2013)

4.6.5 Litter Ingestion

As indicated by the guidelines, the ingestion of litter released from marine farms can also be detrimental to marine wildlife, particularly seabirds. Mussel farms provide resting-places for seabirds and marine mammals. Gulls and shags frequently roost on mussel floats (DOC, 2013).

Increase in the amounts of marine litter around mussel farms can therefore have a potential impact on local populations of seabirds and marine wildlife.

The spat farm structure does not have a high potential of releasing litter. The buoys and ropes are inert and too large to be mistaken for a food source. However, there is a minor potential for accidental release of maintenance equipment, tools or general rubbish by the crew on the vessel. The Maritime Operator Safety System (MOSS) boat certificate has processes to ensure proper rubbish disposal are in place for staff and must be adhered to. This is monitored at all times by the skipper.

4.7 Air and Noise

Spat farms tend to have little potential to directly impact upon air quality. Indirect impacts are more likely, these may result from higher levels of boat traffic/emissions on the water.

The spat farm is unlikely to generate any direct air or odour emissions, as the spat are all contained below the surface of the water. As previously discussed, significant amounts of waste are not expected due to the young age and short period of time the spat will be stored. Given the strong hydrodynamic regime, any mussel waste that is generated will be well flushed. Accordingly odours associated with waste decomposition are unlikely. In the unlikely event that odours were to be generated these would be dispersed and diluted rapidly given the open ocean environment and strong wind regime.

The only noise would be from the vessels and harvesting equipment. This would be 3.2 km off shore and intermittent, it would not increase current noise levels created by the existing fishing vessels and their transporters.

4.8 Community

The Spat farm is primarily expected to have a positive effect on the community as the operation may create potential employment. This is positive for the Far North community which has an unemployment rate of 12.4%. (Statistics New Zealand, 2013).

The marine farm also aligns well with the economy of the Far North District which is reliant on fishing. Therefore the introduction of aquaculture aligns with this existing economy. The marine farm is unlikely to negatively impact upon the availability of fish stocks along Ninety Mile Beach. In fact the marine farm would be more likely to provide shelter to marine life. It is likely that small fish may utilise the marine farm for shelter from time to time to avoid larger predator fish. The applicant will provide designated floats for the purpose of recreational fishing.

5 Monitoring

As described in the AEE:

- The spat farm collects spat that are small in size with minimal potential to over consume plankton or overwhelm the ecosystem with waste.
- The substrate is sandy and lacks reef habitat.
- The spat farm is located in an open marine environment with a strong hydrodynamic regime and flushing.

Accordingly, it is unlikely that significant changes to the physical, chemical or biological characteristics to Ninety Mile Beach will be detected. However in order to justify this assumption, monitoring will occur. If significant adverse changes are detected then appropriate management and mitigation measures will be taken.

Aside from protecting the environment, monitoring can serve to protect the operator of the Spat Farm. By keeping detailed records the operator has evidence to support their case where false claims/complaints may be made against them.

5.1 Visual Observations and Recordings

Visual observations of the spat farm will be made each time the vessel/s are conducting routine maintenance or harvesting. In terms of environmental monitoring the staff will:

- Inspect ropes to ensure they are free of any entanglement by marine mammals;
- Inspect structural integrity of all lines. If anything has become loose or drifted away, track down and remove from the environment; and
- Inspect clarity from both the surrounding natural water, and that within the spat farm. Important factors include turbidity, colour, surface films etc.
- Inspect the spat farm for any other unusual occurrences such as oil leaks from vessels, marine litter, dead seabirds etc.

Records will be kept on a weekly basis.

5.2 Water Quality Monitoring

5.2.1 Frequency

Monitoring will occur at least once before construction commences, then during operation it will occur on an annual basis.

5.2.2 Locations

- A baseline reference location away from the spat farm; and
- Within the spat farm.

Results obtained from a baseline can be used to determine what the “naturally existing” quality is, and how the quality may have been altered within the spat farm. The purpose behind the monitoring

is to determine if the spat farm is having a detrimental impact on the ecological values of Ninety Mile Beach.

5.2.3 Parameters

The water samples will be analysed for the physico-chemical stressors roughly adapted from the ANZECC Guidelines for protection of marine ecosystems. These are recommended guidelines only, more importantly, substantial ongoing differences between the baseline site and the spat farm must be accounted for and managed where appropriate.

Table 1: Water Quality Monitoring

Parameter	Guideline
Chlorophyll-a	1 µg/L
Total Phosphorus	25 µg/L
Filterable Reactive Phosphate	10 µg/L
Total Nitrogen	120 µg/L
Nitrate + Nitrite	5 µg/L
Ammonium (NH ₄ ⁺)	15 µg/L
Dissolved Oxygen	90 – 110 % saturation
Hydrogen Sulfide	1
pH	8.0 – 8.4
Turbidity	10 NTU

5.3 Benthic Monitoring

5.3.1 Frequency

Monitoring of the benthic environment must occur at least once before construction commences, then during operation it must occur on a five yearly basis. This monitoring frequency is substantially reduced as opposed to water monitoring. This is because changes to the sediment structure occur as a result of long term accumulation (usually taking years), rather than water quality changes which can occur more quickly.

5.3.2 Locations

- A baseline reference location away from the spat farm; and
- Beneath the spat farm.

Results obtained from a baseline can be used to determine what the “naturally existing” quality is, and how the quality may have been altered within the spat farm. The purpose behind the monitoring is to determine if the spat farm is overloading the sediment with waste and nutrients.

5.3.3 Parameters

The chosen parameters are used to assess if the sediment is being overloaded with organic material and nutrients which can lead to oxygen deprivation and generation of anaerobic conditions.

Table 2: Sediment Quality Monitoring

Parameter	Guideline
Sediment colour	Darkening/black sediment indicates anoxic environment.
Sediment texture	Observation for significant changes in particle grain size in upper 2cm of sediment.
Total organic content and nutrient content	Observation for significant changes in total organic carbon, total nitrogen, ammonium, nitrate + nitrite, total phosphorus, filterable reactive phosphate.

6 Statutory Assessment

6.1 Resource Management Act 1991

The sections of the RMA that are particularly relevant to this application are detailed below:

6.1.1 Part II

Section 5 – Purpose of the Act

Section 5 of Part II identifies the purpose of the RMA as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and their communities to provide for their social, cultural, and economic wellbeing, while avoiding, remedying or mitigating adverse effects on the environment.

The proposed marine farm operates by capturing a natural and renewable resource in a manner which does not negatively impact on the environment, local community or local economy.

- The marine farm still allows for the community to utilise Ninety Mile Beach in the same manner it has always been used:
 - » Swimming and recreation can still occur with no interference;
 - » Fishing and boating can still occur with the only minor interference being that boats will have to navigate through the structure; and
 - » Existing manual spat catching on Ninety Mile Beach can still occur with no interference to availability of this spat, no lessening or exhausting of this resource.
- The marine farm will not negatively impact on the economy of the local community
 - » There will be minimal road traffic generated;
 - » There will be no diversion of resources away from the community; and
 - » The proposal will not negatively impact on employment prospects within the community, in fact it will generate a small number of jobs.
- The marine farm will not negatively impact on the natural environment:
 - » The marine farm encourages growth of mussel species that naturally exist in the area;
 - » The mussels are captured and raised for a short period of time in their juvenile state; Accordingly there is minimal accumulation of organic waste due to mussel excretion of die off; and
 - » The environment in which the mussel farm is contained is not overly sensitive and highly resilient due to its sandy substrate and strong hydrodynamic regime which allows for continual flushing.

This represents the efficient use of an existing natural resource. Accordingly, the proposal will provide for the social, economic and environmental wellbeing of the Far North community. The positive effects to the wider community outweigh any adverse effects. As such the proposed marine farm is consistent with the purpose of the RMA.

Section 6 – Matters of National Importance

Section 6 of the RMA sets out the matters of national importance that are to be recognised when managing the use, development, and protection of natural and physical resources. In this instance, no matters of national importance are considered relevant.

Section 7 – Other Matters

Section 7 of the RMA lists certain matters to which particular regard is to be had in making resource management decisions. The following ‘other matters’ are considered relevant to the proposal:

(b) the efficient use and development of natural and physical resources:

(ba) the efficiency of the end use of energy:

(c) the maintenance and enhancement of amenity values:

(f) maintenance and enhancement of the quality of the environment:

The proposed activity will facilitate the continued and sustainable use of an existing supply of mussel spat. Energy use will be minimal and as efficient as possible with; lighting generated through solar means, and only a moderate consumption of fuel required to power specialist vessels. Amenity values will be uninterrupted as the structures are located off shore and not visible to those on shore. The low impact nature of the marine farm, in combination with the strong hydrodynamic regime and resilience of the environment ensures that the environments quality will be maintained.

Considering these outcomes, the proposed works are consistent with the ‘other matters’, which are to be considered under Section 7 of the RMA.

Section 8 – Treaty of Waitangi

Section 8 of the RMA requires that the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) must be taken into account in relation to managing the use, development, and protection of natural and physical resources.

Appendix B and C provides details on how the applicant has taken the Treaty of Waitangi into account through a consultation process.

6.1.2 Section 104 Assessment

Subject to Part 2 of the RMA and in accordance with section 104(1), when considering an application for resource consent and any submissions received, the Council must have regard to:

- (a) any actual and potential effects on the environment of allowing the activity; and*
- (b) any relevant provisions of—*
 - (i) a national environmental standard:*
 - (ii) other regulations:*
 - (iii) a national policy statement:*
 - (iv) a New Zealand coastal policy statement:*
 - (v) a regional policy statement or proposed regional policy statement:*
 - (vi) a plan or proposed plan; and*
- (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application*

The actual and potential effects on the environment of allowing the activity are set out earlier, in Section 4 of this report.

The relevant provisions of the policy statements, plans and proposed plans are set out in the following sections.

6.2 New Zealand Coastal Policy Statement 2010

The New Zealand Coastal Policy Statement 2010 (“NZCPS”) is a national policy statement under the RMA. Its purpose is to state objectives and policies to achieve the purpose of the Act relative to the management of the coastal environment of New Zealand.

The NZCPS sits below and implements Part II of the RMA. It gives some guidance to section 5 and 6 of the RMA. It is the highest order statutory planning document relevant to the Marine Farming proposals, thus meaning that their consistency or otherwise with it is important to the Boards considerations.

6.2.1 NZCPS Objectives

The table below provides an assessment of the proposed development against the objectives in the NZCPS.

Objective	Response
To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land.	The proposed development is situated only in the marine environment, where it passively utilises the existing physical and biological processes with minimal/no effect on coastal water quality. In doing so it maintains diversity of any indigenous flora/fauna.
To preserve the natural character of the coastal environment and protect natural features and landscape values	The proposed development is primarily contained below the water line. Only the floating buoys and navigation lights are above the surface and these are not visible from the shoreline. Accordingly it is consistent with the natural character of the coastal environment.
To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment	The applicant, has consulted with the Marae that are considered to represent the Iwi of the area. Feedback that supports the application has been attached in Appendix B and C .
To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment	The proposed development is located off shore and out of the range of public users of the beach. Thus the beach open space is retained.
To ensure that coastal hazard risks are managed, taking into account climate change	The proposed development is a passive floating structure that can be relocated to shallower water should sea level rise.
To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use and development	The proposed development will not generate significant additional traffic. There will be no diversion of resources away from the community. The proposal will not negatively impact on employment prospects within the

	community, in fact it will generate a small number of jobs.
To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area	<p>The proposed development does not trigger any international obligations under the Hazardous Substances and New Organisms Act.</p> <p>The proposed development does not contravene the Convention of the Conservation of Migratory Species.</p>

6.2.2 NZCPS Policy 8

The proposed development fits within Policy 8 for aquaculture. Policy 8 recognises the need for aquaculture, and a need to sustain the coastal environment so it remains supportive of aquaculture. Policy 8 is as follows:

Recognise the significant existing and potential contribution of aquaculture to the social, economic and cultural well-being of people and communities by:

- a. Including in regional policy statements and regional coastal plans provision for aquaculture activities in appropriate places in the coastal environment, recognising that relevant considerations may include:
 - i. The need for high water quality for aquaculture activities; and
 - ii. The need for land-based facilities associated with marine farming;
- b. Taking account of the social and economic benefits of aquaculture, including any available assessments of national and regional economic benefits; and
- c. Ensuring that development in the coastal environment does not make water quality unfit for aquaculture activities in areas approved for that purpose.

6.2.3 Other NZCPS Policies

Other NZCPS policies of particular relevance to this application include: Policy 2 (providing for opportunities for tangata whenua to managing their resources); Policies 4 and 6 (in relation to the integration of land and water activities of marine farming and use of renewable resources); Policies 13 and 15 (in relation to preserving natural character and protecting natural features); and Policies 21 and 23 (in relation to water quality).

6.3 Northland Regional Coastal Plan

The Northland Regional Coastal Plan is the most relevant planning instrument to this proposal. The proposed development consists of a marine farm within the Marine 2 (Conservation) Management Area (M2MA).

In summary Marine 2 areas are those areas left over from the designation of land for:

- Marine 1 (Protection)
- Marine 3 (Marine Farming)
- Marine 4 (Moorings)
- Marine 5 (Port Facilities)
- Marine 6 (Wharves)

The remaining land is designated Marine 2. It is recognised that under Policy 6.4.8 the regional council are seeking input from the Department of Conservation and Iwi to identify areas of important conservation value. The location of the proposed development, Ahipara Bay/ 90 Mile Beach is not listed within one of the high or medium priority areas.

While the marine farm is not located in M3MA, it is still relevant to assess against policy directives for marine farms.

Assessments against the use and development policies for both M2MA and M3MA are detailed in the following sections.

6.3.1 Use and Development Policy for M2MA

There are two objectives listed for M2MA:

- Subdivision, use and development occurring in such a way as to maintain, and where practicable, enhance, the existing natural, cultural and amenity values in the M2MA.
- Involvement of local communities, and other agencies, in the awareness, maintenance and where appropriate, enhancement of the values within the M2MA.

There are five policies which support these objectives. The only relevance to this application is Policy 3.

Policy	Response
To provide for sustainable use and development whilst ensuring that the intensity, character and scale of use and development is compatible in relation to the character (including natural character), heritage and amenity values of the adjoining natural coastal environment.	This application is for a sustainable development utilising a renewable resource within the marine area. It is a passive system, sitting subsurface off shore and out of line of site of beach users. The scale and subsurface nature ensures that it is absorbed into the wider landscape and seascape.

6.3.2 Use and Development Policy for M3MA

There is one objective listed for M3MA:

- Provision for marine farming activity in Northland's coastal marine area while avoiding, remedying or mitigating its adverse effects.

There are ten policies which support this objective:

Policy	Response
1. To promote the integrated management of marine farming activity and any associated land and water-based facilities and operating, including those associated with processing marine farm produce or with gaining access to and along the coastal marine area.	The location of the proposed marine farm (3.2km from the shore) has been selected to ensure it does not interfere with the existing uses of Ninety Mile Beach. The floating buoys and navigation lights will ensure that there is easy navigation around the marine farm.
2. To recognise and provide for the particular water quality requirements of the marine farming industry, through the separation of conflicting activities and the promotion of the rationalisation, where possible, of water quality monitoring required for or otherwise associated with, marine farming.	<p>The marine farm and its associated activities will comply with the <i>New Zealand Food Safety Authority Animal Products (Specifications for Bivalve Molluscan Shellfish) Notice 2006</i>. This requires regular monitoring of microbial, chemical, phytoplankton, and marine biotoxin levels.</p> <p>The equipment used to harvest mussels is also subject to the New Zealand Food Safety Authorities This consists of regular audits by the New Zealand Food Safety Authority officials or their local agents in Territorial Authorities.</p>
3. To promote the incorporation of all authorised marine farms into the planning framework of the Resource Management Act 1991.	Not applicable.
4. To require the repair or removal of marine farms authorised under the RMA which have been allowed to fall into a state of disrepair or have been abandoned and to institute restoration measures where required.	Not applicable.
5. To promote the repair or removal of marine farms authorised under the Marine Farming Act which have been allowed to fall into a state of disrepair or have been abandoned and to promote the institution of restoration measures where required.	Not applicable.

<p>6. To promote the efficient utilisation of coastal space authorised for marine farming activity.</p>	<p>Ninety Mile Beach/ Ahipara Bay is a long stretch of coast without any marine farms currently located in the area. The size and location of the marine farm does not restrict any additional activities being located in Ahipara Bay.</p>
<p>7. To establish baseline data, and monitor the degree and extent of cumulative adverse effects of intensive marine farming activity on the quality of the coastal marine area, and to use the results to assess the appropriateness of proposals for new marine farms or extensions to authorised marine farms.</p>	<p>The marine farm and its associated activities will comply with the <i>New Zealand Food Safety Authority Animal Products (Specifications for Bivalve Molluscan Shellfish) Notice 2006</i>. This requires regular monitoring of microbial, chemical, phytoplankton, and marine biotoxin levels.</p>
<p>8. Subject to Policy 9, to provide for the expansion of marine farming within Marine 2 Management Areas, while ensuring that new marine farms are located, designed, constructed, and managed in ways which minimise adverse effects on the coastal marine area, particularly on its ecological, cultural, and amenity values.</p>	<p>It is considered that the proposed farm would have minimal adverse impacts on ecological values due to the passive nature of the activity, which utilises the existing physical and biological processes with minimal effect on the coastal environment. The 3.2km distance of the proposed farm from the shore and the subsurface nature of the activity will result in minimal impact on amenity values. Consultation with local Iwi and Marae groups will ensure all cultural values are taken into consideration.</p>
<p>9. To prohibit the establishment or expansion of authorised marine farms within:</p> <p>(a) Marine 1 Management Areas (to manage their conservation values); and,</p> <p>(b) locations within the Marine 2 Management Area which are:</p> <p style="padding-left: 40px;">(i) already fully developed by marine farming; or</p> <p style="padding-left: 40px;">(ii) unsuitable for marine farming because of potential conflicts with adjacent areas of urban development and recreational activities; or</p> <p style="padding-left: 40px;">(iii) unsuitable for marine farming because of potential conflict with high existing natural character and amenity values.</p>	<p>This application does not fall within the criteria of this policy as there are no other marine farms in the vicinity and there are no conflicts with adjacent urban development and recreational activities. The natural character and amenity values of the area are not considered high due to the modified nature of the surrounding land.</p>
<p>10. To require the consideration of land-based alternatives when reviewing proposals for the</p>	<p>Not applicable</p>

marine farming of non-conventional species, including non-indigenous fish.	
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6.3.3 Relevant Rules M2MA

Rule	Response
a The establishment of any new marine farm or the extension of any authorised marine farm, including the erection of oyster racks, mussel longlines and spat catching structures, which is not otherwise a prohibited activity under Rule 31.4.10(b).	The proposed Marine Farm is not a prohibited activity under Rule 31.4.10 (b) therefore it is a discretionary activity.

6.3.4 Assessment Criteria for Marine Farms

Assessment Criteria	Response
1. Whether the species intended to be farmed is indigenous to, or has previously been cultivated in, New Zealand or Northland's coastal marine area and, if not, the likelihood of it becoming established 'in the wild'.	The green lipped mussel is indigenous to New Zealand. The activity of gathering green lipped mussel spat is well established on Ninety Mile Beach, but it has been previously undertaken by gathering the mussel spat from the seaweed that has built up on the beach. There are over 600 mussel farms in New Zealand (The University of Waikato, 2015).
2. Whether the location of the proposed farm in relation to tidal height, wave exposure, and water quality is suited to the growing habit of the species to be farmed.	Ninety Mile Beach is a well-established home for mussel spat. The location of the farm 3.2km from the shore has been selected to allow for good flushing around the farm. This will ensure water quality is high and wave exposure and tidal height are not an issue given the distance from the shore.
3. The availability of access to the proposed site.	Access is available by sea from vessels based in Houhora.
4. Whether the applicant has an existing marine farm and the extent to which this is developed and/ or utilised.	The applicant has existing marine farms in the Hauraki Gulf that are fully utilised.
5. Whether the marine farm will require impoundment, structures, discharges or moorings.	The marine farm will require structures in the form of anchors and mooring lines.
6. Whether the construction, maintenance or operation of the proposed marine farm will require the use of vehicles in foreshore areas.	Periodically a small trailer boat will be used to monitor the spat farm for maintenance and spat settlements.

7. Whether spat or farm materials will be required to be stored outside the proposed marine farm, but within the coastal marine area.	No materials will be stored outside the marine farm but within the coastal marine area.
8. The availability of associated land-based requirements necessary to operate the farm.	A land base will be provided to provide for storage of vessels and provide parking and amenities for staff. This ensures public facilities in Ahipara are not overloaded.
9. The degree of exclusive occupation of space required in relation to the available space within the locality and effects on existing uses of the coastal space.	Ninety mile beach is an 88km stretch of coast. The beach currently has no fixed structures in the water but it is used for commercial and recreational fishing and diving. The marine farm is minor in comparison to the large open coast.

6.3.5 Assessment Criteria for Structures

Assessment Criteria	Response
1. Within Marine 1 and Marine 2 Management Areas, whether the proposed structure will be the only structure or the first of its type or the first of any significant size, within an estuary, embayment, or unmodified stretch of coastline and whether the approval of the proposed structure is likely to lead to additional proposals for structures or other types of use and development.	The structure is in the Marine 2 Management Area. The structure will be the first of its type in Ahipara Bay/ Ninety Mile Beach. If the operation is successful it may lead to a movement away from the traditional collection of mussel spat from the foreshore to mussel spat farms. Aquaculture is a growing area in New Zealand and this is supported by central government and the <i>Aquaculture Reform Act, 2004</i> .
2. Within Marine 3 Management Areas, the extent to which the structure enhances a safe or efficient marine farming operation or is otherwise required for marine farming operations.	The marine farm is not within Marine 3 Management Areas.
3. Within Marine 4 Management Areas, the extent to which the structure provides for the requirements of recreational and commercial vessels and their use, including mooring, refuelling, loading and unloading.	The marine farm is not within Marine 4 Management Areas.
4. Within Marine 5 Management Areas, the extent to which the structure enhances the safe or efficient port operation or is otherwise required for port operations.	The marine farm is not within Marine 5 Management Areas.

5. The extent to which public access to and along the coastal marine area is maintained or enhanced through the use of the proposed structure.	There is currently sufficient public access to and along the coastal marine area of Ahipara. The mussel farm will not affect this.
6. The degree of multiple use proposed.	There is no multiple use proposed.
7. The use to which the proposed structure is to be put and the appropriateness of that use in the proposed locality.	The proposed structure is to be a mussel spat farm. The location is appropriate due to its distance from the shore and recreational users of the beach and the swells created by the strong winds ensure that the surrounding water is flushed often therefore water quality is high. The location of the mussel farm and the subsurface nature of the structures also allow the structure to blend into the wider landscape.
8. Whether the proposed structure is the appropriate size to avoid, remedy or mitigate adverse effects (the hierarchy of “avoidance” then “mitigation” then “remediation” shall be interpreted in accordance with Policy 3.2.2 of the NZCPS, 1994) on coastal environment, taking into account its location and proposed function.	Please refer to Section 4 Potential and Actual Effects to Environment for the full Assessment of Environmental Effects.
9. The method of construction employed.	Please refer to Section 2.5 for the construction method
10. The extent to which adverse visual effects are considered and the likely effectiveness of any mitigation measures proposed. In particular in relation to proposed buildings, consideration will be given to building height, roof pitch, size and orientation of glazing, colours of external surfaces, and the interrelationship with any existing buildings, towards minimising adverse visual effects. Where the structure is located in the Marine 5 Management Area, consideration will be given to the operational requirement for structures in that area when applying this criterion.	Please refer to Section 4.5 for a full assessment of the visual effects.
11. With the exclusion of Marine 5 (Port Facilities) Management Area, whether the proposed structure will compromise the recreational use of the site and the surrounding area.	There is a large buffer of approximately 3.2km between the marine farm and the shore of Ninety Mile Beach. This buffer enables recreational activities to continue from the shore and allows boats for to launch from the shore without hindrance. The marine farm is unlikely to negatively impact upon the availability of fish stocks along Ninety Mile Beach. In fact the marine farm is likely to provide shelter to marine life and improve

	opportunities for recreational fishers and divers.
12. Whether the proposed structure will be located in an area known to be prone to erosion and, if so, the extent to which alternatives to erecting or using the structure have been considered, including for structures associated with erosion control.	The location of the marine farm is not prone to erosion. Marine farm structures are constructed to deal with sea bed conditions including sediment movement.
13. The extent to which the proposed structure will create erosion or siltation and the likely effectiveness of any avoidance or mitigation measures proposed.	The proposed marine farm location is exposed to almost continuous onshore oceanic swells that cause turbulence, turbidity and sediment movement. The structure is designed to move with these swells and will not increase the amount of sediment movement.
14. In regard to proposed natural control structures, the extent to which alternatives to using structures and the alternative types of structures have been investigated and the reasons given for choosing the preferred option in terms of their long term benefits.	Not applicable.
15. The extent to which sea-level rise has been taken into account in the location and design of the proposed structure.	The proposed development is a passive floating structure that can be relocated to shallower water should sea level rise.
16. The necessity for any proposed alteration or extension of an existing structure and the extent to which the proposed alteration or extension will increase adverse effects, including those on adjoining land.	Not applicable.

7 Conclusion

The proposed spat farm will collect endemic mussel spat in a more sustainable and less invasive manner currently available on Ninety Mile Beach. The development may also encourage generation of employment in the local area. The applicant has designed and situated the development with consideration to the community's use of the environment. Support for the project has been obtained from the community.

Effects to the environment are considered to be minimal. This is primarily because it is a submerged passive structure harvesting mussels at an early age. Given the low intensity nature of the system, and given the environment is off shore with a strong hydrodynamic regime, the environmental effects are considered to be minimal. To ensure environmental effects are minimal, monitoring of the environment will occur. Progression from one stage to the next will not occur unless monitoring results confirm only minor impact has occurred.

The spat farm aligns with all relevant sections of the RMA, the New Zealand Coastal Policy Statement and the Northland Regional Coastal Plan.

In summary the spat farm is a suitable and sustainable development that is worthy of consent by Northland Regional Council.

8 Glossary of Terms

Spat: a larval bivalve mollusc.

Spat farm: An area used in the collection and growth of larval bivalve molluscs, and includes all structures, whether floating or submerged, associated equipment, rafts used in the area in connection with the farm, and all boundary markings.

Marine farm: means all that part of the area that is Marine farm being or has been developed into a farm for the farming of living resources of the sea; and includes all structures, whether floating or submerged, associated equipment, rafts used in the area in connection with the farm, and all boundary markings.

Water column: A conceptual column of water used in environmental studies for evaluating the mixing or stratification of thermal or chemical dynamics in a water body.

Backbone lines: Ropes that sit along the water surface; used to hold the dropper lines and buoys together.

Dropper lines: Ropes that suspend in the water column; used to collect spat.

Screw anchor: Long pipe like screw with minimal blades that embeds into the sea floor; used to fix ropes in constant position.

Hydrodynamic: pertaining to the forces and motions of fluids in water bodies.

Fore dune: The part of a system of sand dunes that is closest to the sea.

Hind dune: The most inland part of the dune system

Intertidal: Area of seashore that is between the high tide mark and low tide mark.

Sediment deposition: The geological process through which sediment is added to an environment. Once sediment has stopped movement it is deposited.

Carrying capacity: The population of organisms that can be sustained in an ecosystem considering the resource availability.

Anaerobic conditions: Relating to an absence of oxygen.

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APPENDIX A- Structural Plans



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NORTH
WESTERN
MUSSELS

INDEX		
SHEET No.	SHEET TITLE	REVISION No.
C01	OVERVIEW PLAN	1
C02	SITE 1 PLAN	1
C03	SITE 2 PLAN	1
C04	SITE 3 PLAN	1
C05	ELEVATION	1
C06	LIGHTING AND BUOY LAYOUT	1

NORTH WESTERN MUSSELS LTD AHIPARA MARINE FARM

FOR CONSTRUCTION

Project No: 1-19472.00

Date: JULY 2016





SITE PLAN
N.T.S

FOR CONSTRUCTION

Revision	Amendment	Approved	Revision Date
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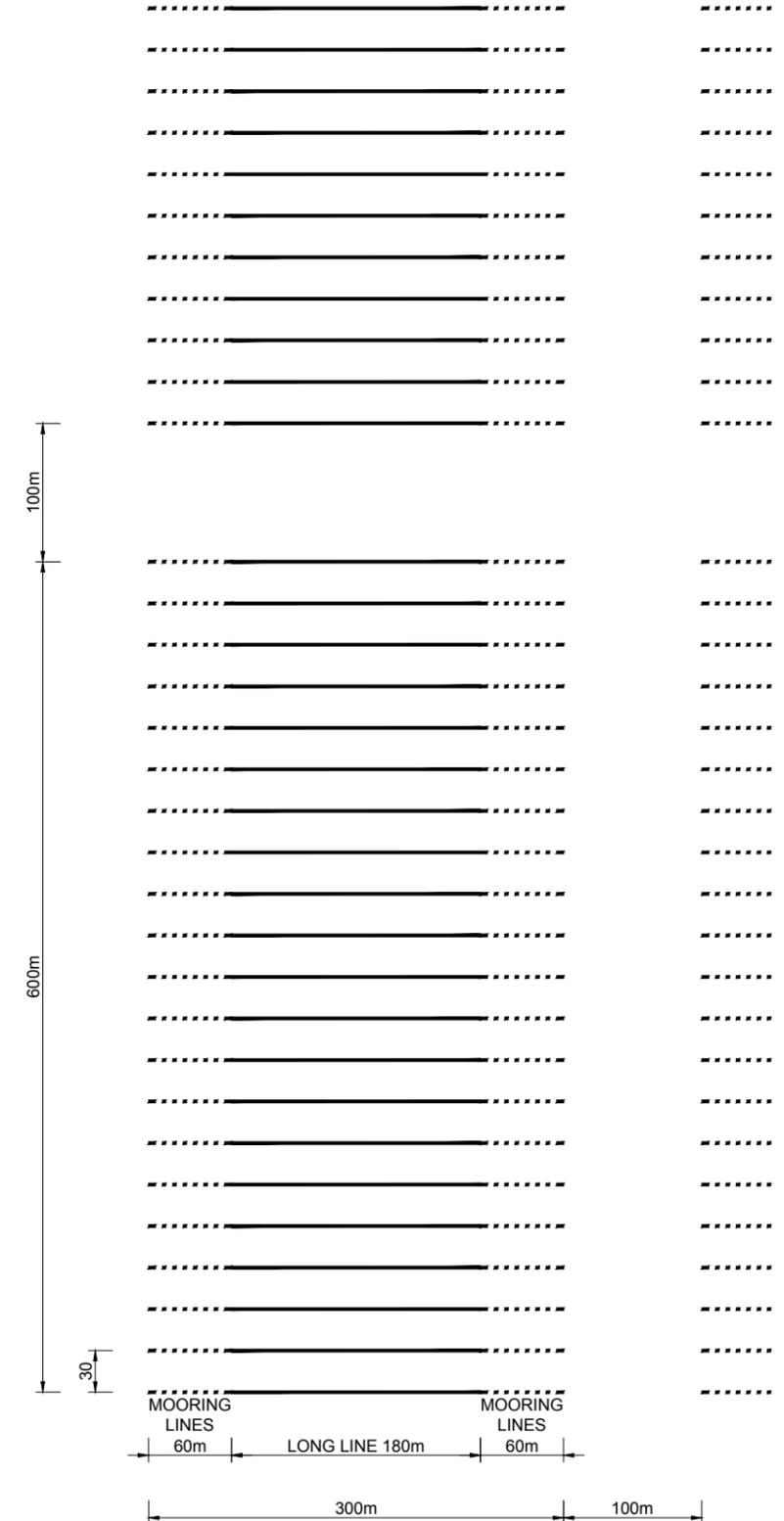
NORTH WESTERN MUSSELS



Project			Sheet No.	Revision
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Sheet			OVERVIEW PLAN	
Designed	Approved	Approved Date	Project No.	
M. FARREY	M. FARREY	2016-07-15	1-19472.00	
Drawn	Scales			
R. CRAWFORD	AS SHOWN AT A1			



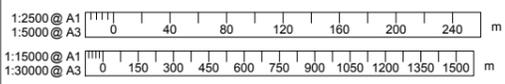
SITE 1
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MOORING LINES 60m
LONG LINE 180m
MOORING LINES 60m
300m 100m

DIMENSIONS
1:2500 AT A1

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Revision	Amendment	Approved	Revision Date
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NORTH WESTERN MUSSELS

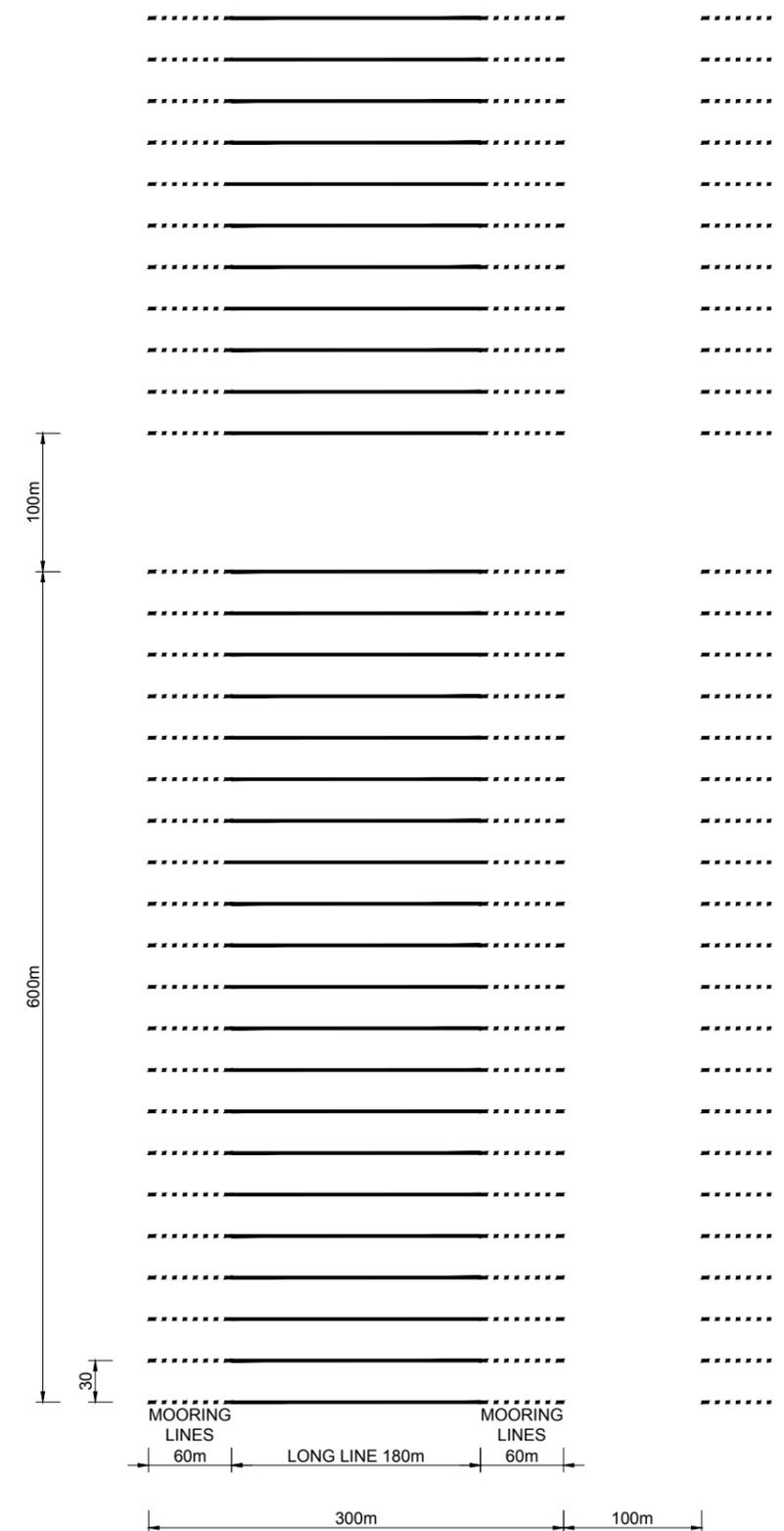


Designed M. FARREY	Approved M. FARREY	Approved Date 2016-07-15
Drawn R. CRAWFORD	Scales AS SHOWN AT A1	Project No. 1-19472.00

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Sheet No. C02	Revision 1

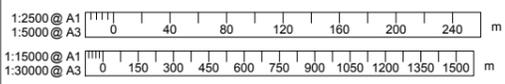


PLAN
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DIMENSIONS
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FOR CONSTRUCTION



Revision	Amendment	Approved	Revision Date
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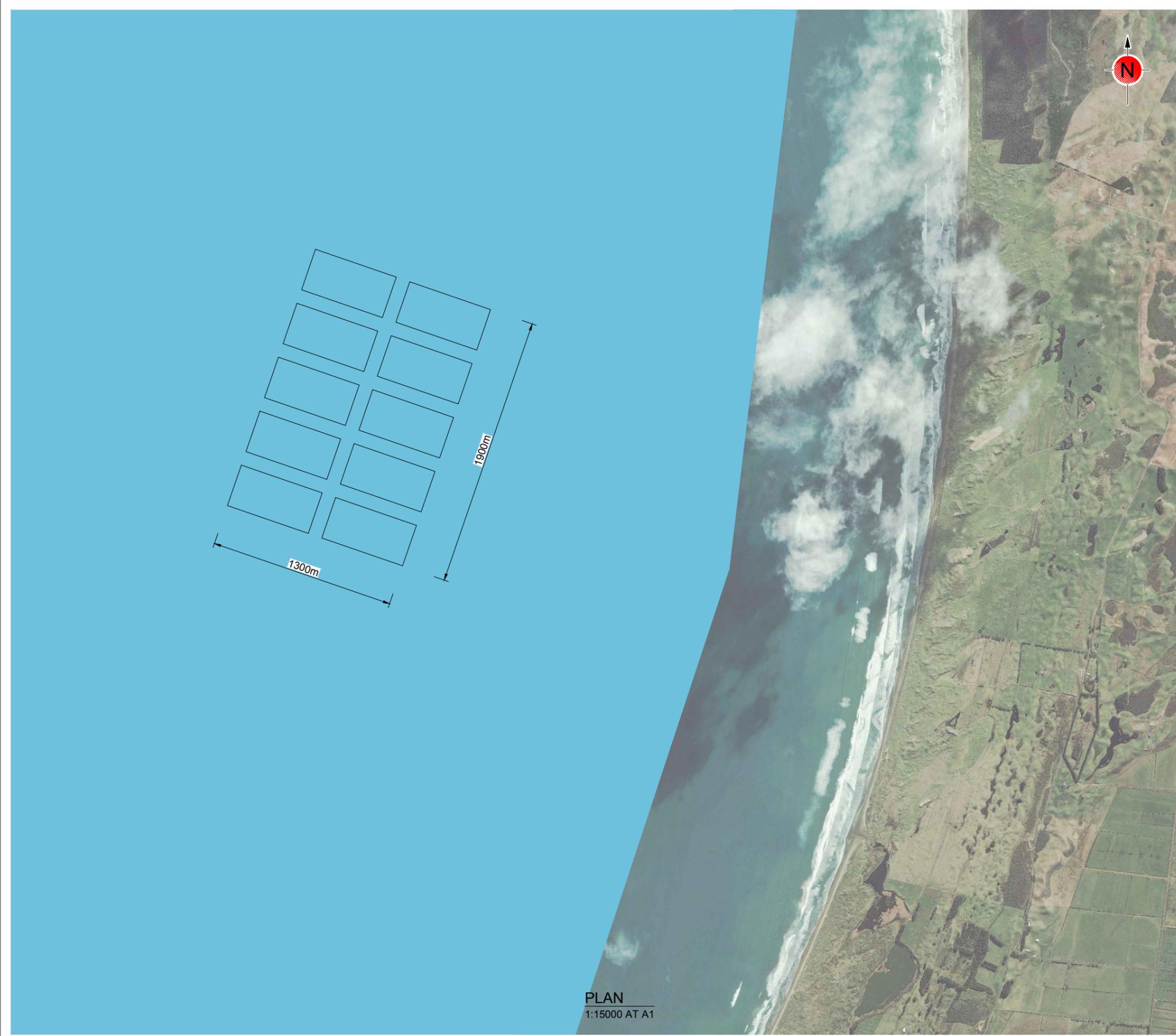
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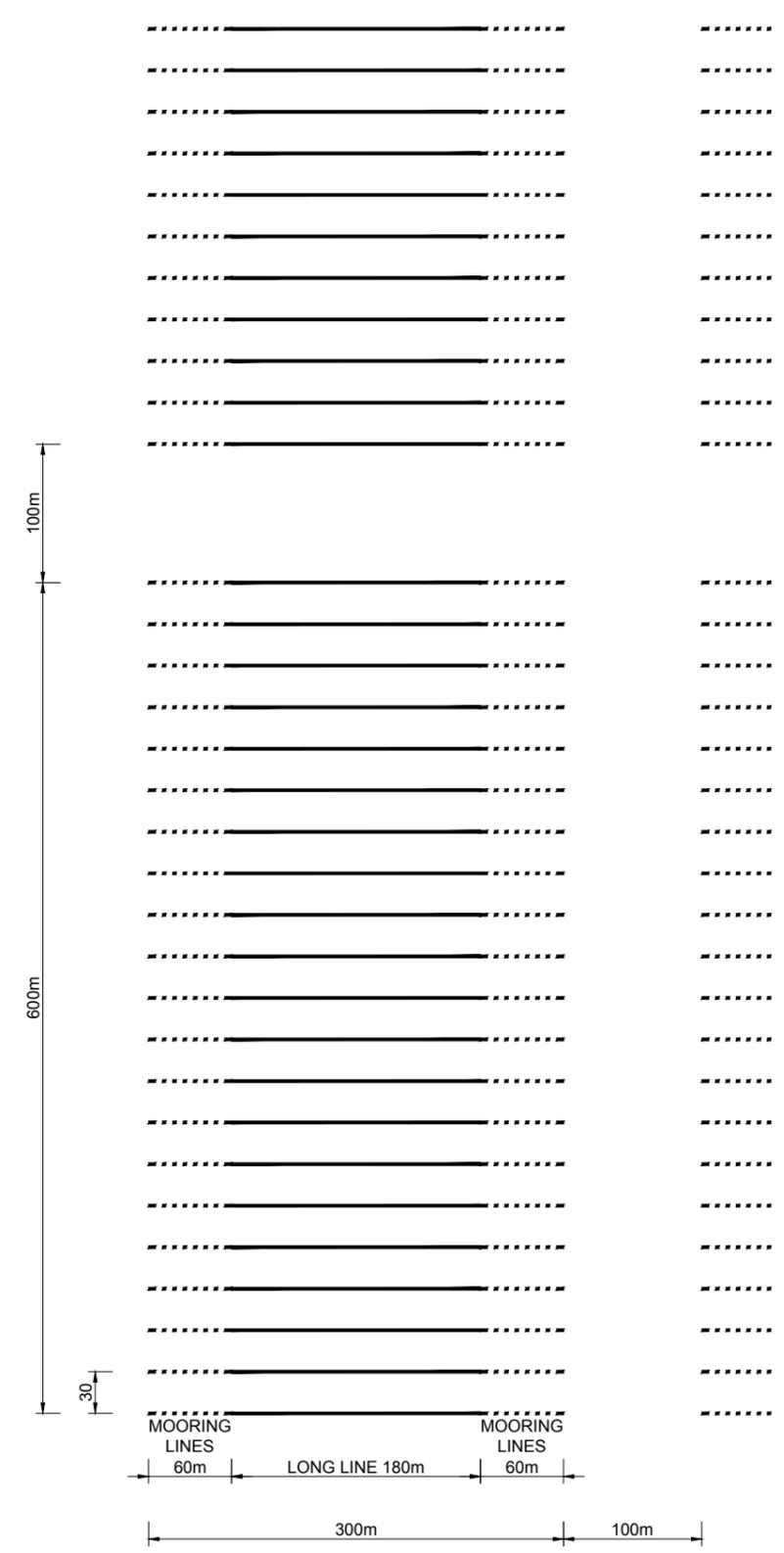
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Drawn R. CRAWFORD	Scales AS SHOWN AT A1	Project No. 1-19472.00

Project GULF MUSSEL FARMS LTD AHIPARA MARINE FARM	
Sheet SITE 2 PLAN	
Sheet No. C03	Revision 1

300 mm
200
100
50
10 mm
0



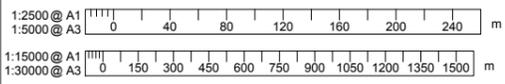
PLAN
1:15000 AT A1



MOORING LINES **MOORING LINES**
60m LONG LINE 180m 60m
300m 100m

DIMENSIONS
1:2500 AT A1

FOR CONSTRUCTION



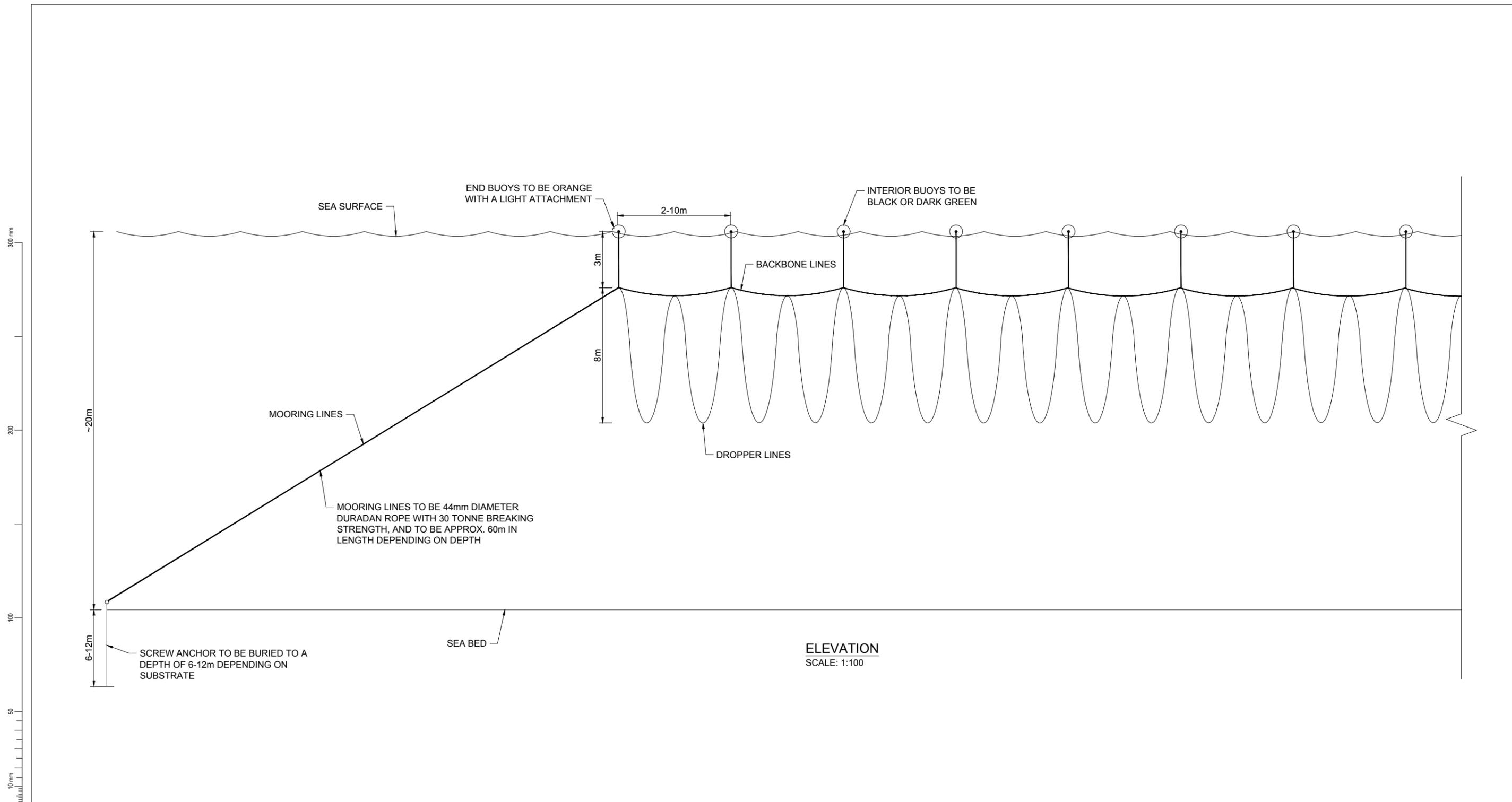
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NORTH WESTERN MUSSELS



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Drawn R. CRAWFORD	Scales AS SHOWN AT A1	Project No. 1-19472.00

Project GULF MUSSEL FARMS LTD AHIPARA MARINE FARM	
Sheet SITE 3 PLAN	
Sheet No. C04	Revision 1



SEA SURFACE

END BUOYS TO BE ORANGE WITH A LIGHT ATTACHMENT

2-10m

INTERIOR BUOYS TO BE BLACK OR DARK GREEN

BACKBONE LINES

DROPPER LINES

MOORING LINES

MOORING LINES TO BE 44mm DIAMETER DURADAN ROPE WITH 30 TONNE BREAKING STRENGTH, AND TO BE APPROX. 60m IN LENGTH DEPENDING ON DEPTH

~20m

6-12m

SCREW ANCHOR TO BE BURIED TO A DEPTH OF 6-12m DEPENDING ON SUBSTRATE

SEA BED

ELEVATION
SCALE: 1:100

FOR CONSTRUCTION

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MUSSELS**



Private Bag 9017
Whangarei 0148
New Zealand

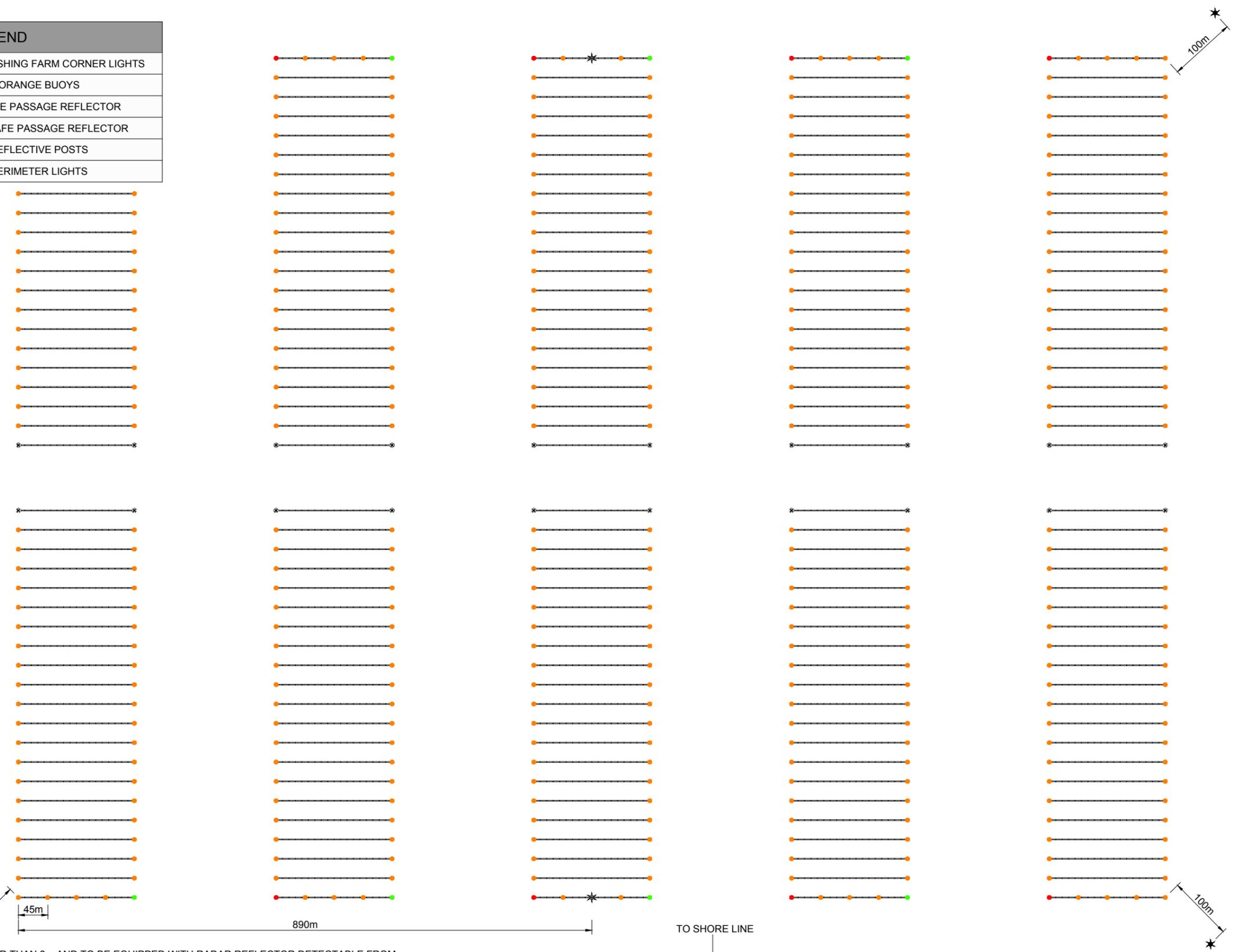
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M. FARREY	M. FARREY	2016-07-15
Drawn	Scales	Project No.
R. CRAWFORD	1:100 AT A1	1-19472.00

Project	
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Sheet	
ELEVATION - DESIGN 1	
Sheet No.	Revision
C05	1

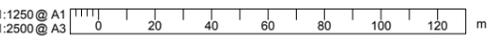
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1:200 @ A3

LEGEND	
	YELLOW FLASHING FARM CORNER LIGHTS
	ORANGE BUOYS
	RED SAFE PASSAGE REFLECTOR
	GREEN SAFE PASSAGE REFLECTOR
	REFLECTIVE POSTS
	PERIMETER LIGHTS

300 mm
200
100
50
10 mm
0



- NOTES**
- CORNER LIGHTS TO BE GREATER THAN 2m AND TO BE EQUIPPED WITH RADAR REFLECTOR DETECTABLE FROM 2 NAUTICAL MILES AT MINIMUM. ONE TO BE INSTALLED 100m FROM EACH CORNER OF THE FARM AND TO BE SEPARATELY ANCHORED.
 - 1m HIGH PERIMETER LIGHTS TO BE INSTALLED AROUND EXTERIOR AT A SPACING OF 760m AND MUST BE VISIBLE FROM ONE NAUTICAL MILE.
 - RED AND GREEN SAFE PASSAGE REFLECTORS TO BE AROUND THE SPACES BETWEEN BLOCKS. RED TO BE ON THE LEFT WHEN FACING SHORE AND GREEN TO THE RIGHT. THE LOCAL HARBOUR MASTER SHALL BE CONSULTED AS TO WHETHER ADDITIONAL LIGHTS ARE REQUIRED.
 - REFLECTIVE POSTS TO BE INSTALLED ON EACH BLOCK CORNER THAT DOESN'T ALREADY HAVE A LIGHT TO ASSIST NAVIGATION BETWEEN BLOCKS.
 - ORANGE BUOYS TO BE INSTALLED ON BOTH ENDS OF EACH LINE AND EVERY 50m ALONG PERIMETER.



Revision	Amendment	Approved	Revision Date
1	ISSUED FOR CONSTRUCTION		

**NORTH
WESTERN
MUSSELS**

OPUS
Whangarei Office
+64 9 430 1700

Private Bag 9017
Whangarei 0148
New Zealand

Designed: M. FARREY
Approved: M. FARREY
Approved Date: 2016-07-15

Drawn: R. CRAWFORD
Scales: N.T.S

Project	
GULF MUSSEL FARMS LTD AHIPARA MARINE FARM	
Sheet	
LIGHTING AND BUOY LAYOUT	
Project No.	Sheet No.
1-19472.00	C06
Revision	1

FOR CONSTRUCTION

APPENDIX B- Consultation Notes

Consultation with Iwi

By North Western Mussels Limited
321 Tiki Quarry Road RD1
Coromandel
3581

The Applicant embarked on a journey of developing a wild spat catching operation off the west coast of 90 mile beach by being a part of a joint venture with Iwi and local people.

2010

The Applicant travelled to Ahipara to look at the potential of spat catching off Ninety Mile Beach. In the process the Applicant was introduced to four Ahipara locals who formed a group called 'Nga Hau e Wha' (The Four Winds). Patau Tepania, a local Kaitiaki was one of the four members. The Applicant and Nga Hau e Wha consulted each other and agreed to pursue a Resource Consent for water space to go spat catching. Visits were made by both parties to Ahipara and Coromandel and numerous meetings held over the period of 12 months. After much negotiation the project stalled as agreement could not be reach to include the Applicant as part of the Resource Consent in return for funding the application.

2015

The Applicant was contacted by Patau Tepania who explained that Nga Hau e Wha had dissolved and Patau had continued alone developing an application. Patau submitted the application to Northland Regional Council. The Council accepted the application but advised the application would be put on hold as it was incomplete and needed more work. Patau approached the applicant and asked if the applicant would become involved in the application and if the applicant would provide finance.

From August 2015 to July 2016 the Applicant and Patau had many meetings and consultation to try and come to a commercial agreement to carry the project forward. Two commercial arrangements were negotiated;

- i. Supply agreement: the Applicant would provide finance in return for a supply contract. This agreement was discussed at length and eventually stalled as an agreement could not be met.
- ii. Part of the Resource Consent: after the supply agreement stalled the Applicant offered as security to be a named party on the Resource Consent in return for funding the application. Accordingly the Resource Consent would be under the name of Patau and the Applicant. However an agreement was not met on this.

In an effort to keep the project moving forward and ensure consultation with the Tangata Whenua occurred, the Applicant contacted the local Iwi and express their interest in a joint venture. The Applicant sent the attached presentation in **Appendix C** to three Iwi,

- i. Te Rarawa
- ii. Ngati Kuri
- iii. Ngai Takoto

Responses were received from Harry Burkhardt, CEO Ngati Kuri and Hemi Toia, General Manager – Te Rarawa Investment Company, from Ngati Kuri and Te Rarawa respectively. Meetings, conference calls and phone conversations followed.

The conclusion from all of the Iwi consultation is;

- i. Iwi have a strong desire to be involved in the project from a kaitiakitanga, cultural, and economic perspective.
- ii. The applicant has a strong desire to be part of a joint venture with Iwi.
- iii. The Applicant is unclear on the concerns Iwi have with the Applicant being a named party on the Resource Consent.
- iv. Iwi have no environmental concerns. Iwi have a very good understanding of the proposed activity and its benign effect on the environment.

As the Applicant has not yet been able to secure a joint venture with Iwi or with Patau Tepania, the Applicant intends to lodge this consent in the Applicants name alone. The Applicant has the future intention of forming a joint venture with Iwi if possible.

APPENDIX C- Presentation to Iwi



Te Oneroa a Tohe Aquaculture

90 Mile Beach Spat Catching Proposal



The Search for Spat and a Joint Venture with Iwi

A partnership between Tangata Whenua, Farmers, Processors and Exporters

A presentation to,

Ngai Takoto
Ngati Kuri
Te Aupouri
Te Rarawa





Who are we?

Gulf Mussel Farms – Coromandel

OP Columbia – Whitianga

Vela Fishing – Hamilton

Together we are 'North Western Mussels' – working to find new sources of spat along the west coast of the North Island



Gulf Mussel Farms

From humble beginnings to a grower and harvester of over 5,000 tons of green lipped mussels



Simply Superior Shellfish



OP Columbia

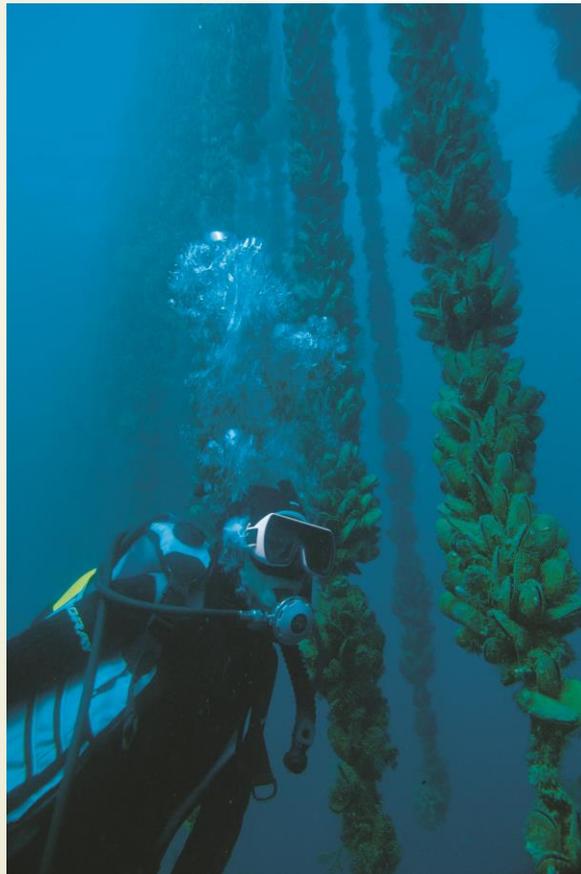
Established in 1980, the company adopted a simple philosophy for success - to produce and market the highest quality shellfish available.



Vela Fishing

Our product is a reliable resource. We are committed to the future of the New Zealand fishing industry

Working together we cultivate, process and market to the world New Zealand's very own Green Lipped Mussels



Te Oneroa a Tohe

90 Mile beach cast spat

- For over 30 years the New Zealand mussel industry has relied on 90 mile beach cast spat.
- Demand for 90 mile beach cast spat now exceeds supply.
- The industry is looking for a new source of supply that can add to the existing beach cast spat.
- For the Aquaculture industry to reach it's goal of being the next \$1 billion primary industry it must seek out new sources of supply to grow its production.



Why Spat Catching?

- Spat catching will allow us to build the spat supply without impacting or competing with the existing beach cast spat collection.
- Spat catching offers the possibility of a more consistent and reliable supply of spat throughout the entire year.
- Spat catching offers diversity away from the existing beach cast spat who's quality and quantity have been down on previous years.



Why Te Oneroa a Tohe?

- The mussel beds off Te Oneroa a Tohe and the down the west coast of the North Island spawn throughout the year producing billions of mussel larvae.
- Te Oneroa a Tohe has New Zealand's largest accumulation of mussel larvae.
- The mussel larvae in combination with the clean, high energy oceanic waters off Te Oneroa a Tohe, as well as the historic success of beach cast spat make this location ideal for the application of spat catching.



Research

- Over the last 5 years Allan and Jake Bartrom have been researching mussel spat settlements in Kawhaia, Raglan, Port Waikato, Muriwai and Te Oneroa a Tohe.
- All have had various degrees of success but Te Oneroa a Tohe proves to be the best.
- Te Oneroa a Tohe has greater numbers of mussels settling, but also has more settlements per year than all other sites.



Environmental Impacts

- Being mussel farmers who rely on nature and most of all water quality. We are very concerned with any environmental impact our activities or the activities of others will have on the environment.
- Spat catching has a very benign impact on the environment as you are only supplying a habitat for the mussel larvae to settle on and then removing it after a relatively short period of time.
- With all the necessary science we would go confidently through the Resource Management process and mitigate any environmental impacts identified.



Cultural Impacts

- Our purpose is to include Iwi and not only consult Iwi.
- By partnering with Iwi in a Joint Venture we can go forward under your guidance and instructions addressing the cultural elements of a spat catching operation off Te Oneroa a Tohe.
- Our hope is that Iwi will have a cultural enhancement rather than a cultural impact.



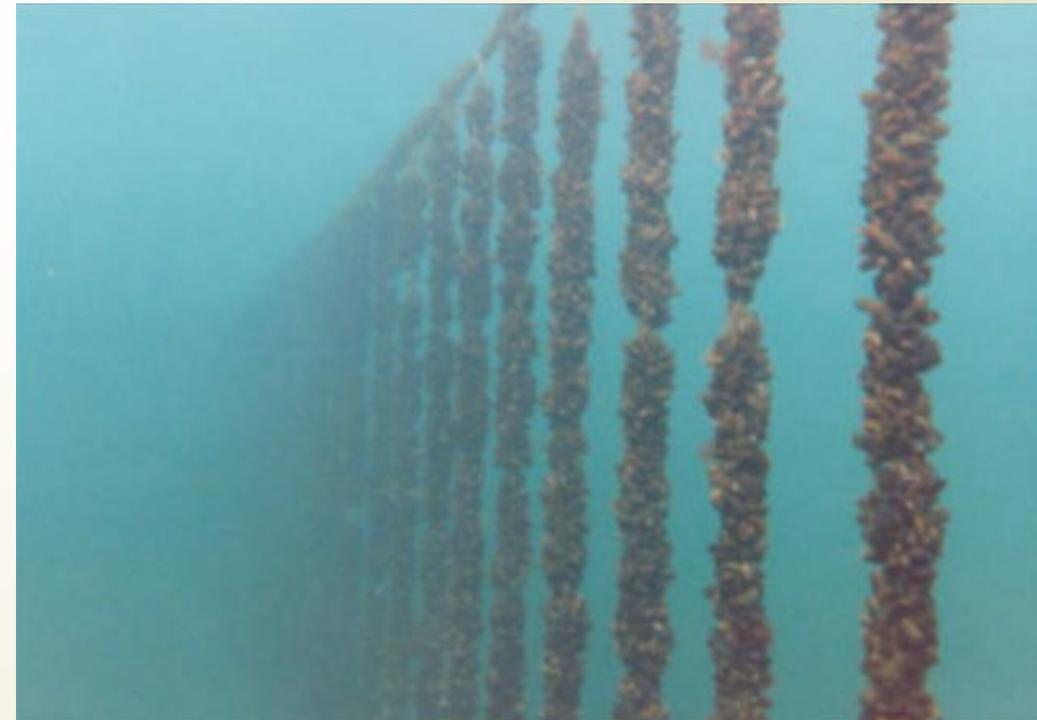
Why a Joint Venture

- ▶ In the modern world of delivering mussels from our oceans to the world we need the collaboration of Tangata Whenua, Farmers, Processors and Exporters. We need everybody to bring their resources, knowledge and skills in order to be successful.
- ▶ Tangata Whenua are an essential element of a successful aquaculture enterprise off Te Oneroa a Tohe. Providing access to the water resource, Kaitiakitanga, matauranga maori, and the people.
- ▶ A Joint Venture between Tangata Whenua, Gulf Mussel Farms, OP Columbia and Vela Fishing is an aquaculture collaboration that can deliver our highly regarded and sought after seafood from Te Oneroa a Tohe to the world.
- ▶ A Joint Venture that has all the ingredients of success.



How will a Joint Venture Work?

- ▶ We join together
- ▶ We apply for water space
- ▶ We work through a Resource Consent
- ▶ We get granted water space
- ▶ We develop the farm
- ▶ We commercialise the operation





Next Step – We meet again

Te toia te haumatia

Nothing can be achieved without a plan, a workforce and a way of doing things

Receipt no: 42063

APPLICATION FORM FOR RESOURCE CONSENT



Putting Northland first

Whāngārei Office	Phone:	(09) 470 1200
	Fax:	(09) 470 1202
Kaitiāia Office	Phone:	(09) 408 6600
Ōpua Office	Phone:	(09) 402 7516
Dargaville Office	Phone:	(09) 439 3300
Free Phone		0800 002 004
E-mail		mailroom@nrc.govt.nz
Website		www.nrc.govt.nz

This application is made under Section 88/127 of the Resource Management Act 1991

NORTHLAND REGIONAL COUNCIL
 15 JUL 2016
 FILE No. N.R.C.

To: Consents Department
 Northland Regional Council
 Private Bag 9021
 Whāngārei Mail Centre
 Whāngārei 0148

IMPORTANT NOTES TO APPLICANTS

- Please read fully the notes below and the Information Brochures and Explanatory Notes available from the Council, before preparing your application and any supporting information.
- The Resource Management Act 1991 sets out the information you must provide with your application for a resource consent. If you do not provide adequate information, your application cannot be received nor processed by the Council and will be returned to you. If you are unsure of what information should be included with your application, please contact the Council before submitting the application.
- Applications require notification (public advertising calling for submissions) unless the Council is satisfied that the adverse effects on the environment of the activity for which consent is sought will be minor; and written approval has been obtained from every person who the Council is satisfied may be adversely affected by the granting of the consent. The Council also has available a form "Form 8A - Affected Person's Written Approval", to help you record such approvals for applications that may be processed without public notification.

NORTHLAND REGIONAL COUNCIL
 15 JUL 2016
 FILE No. N.R.C.

PART A - GENERAL

APPLICANT	Full Names
(1) Full Name of Applicant(s): <small>(in full e.g. Albert William Jones and Mary Anne Jones. For Companies, Trusts and other Organisations, commonly used name)</small>	North Western Mussels Limited
Phone Number - Business:	022 127 0883 Fax:
Home:	022 127 0883 Mobile: 022 127 0883
E-mail:	jakebartrom@gmail.com

For applications by a company, private trusts or other entity/organisations, the Directors; Trustees and Officers' full names must be supplied and Section (12) completed and signed.

(2) Postal Address: <small>(in full)</small>	North Western Mussels Limited
	321 Tiki Quarry Road
	R01 Coromandel
	3581

(3) Residential Address: <small>(if different from postal address)</small>	

(4) Address for Service of Documents: (if different from postal address e.g. Consultant)	OPUS Consultants Whangarei
	P.O. Box 553
	c/o Mark Farrey

(5) Owner/Occupier of Land/ Water Body: (if different from the Applicant)	Coastal Marine Area

(6) Type(s) of Resource Consent sought from the Regional Council:

You will need to fill in a separate Assessment of Environmental Effects Form for each activity. These forms can be obtained from the Northland Regional Council.

Coastal Permit

Mooring Marine Farm Structure Pipeline/Cable
 Other (specify) _____

Land Use Consent

Vegetation Clearance Quarry Structure in/over Watercourse
 Earthworks Construct/Alter a Bore Dam Structure
 Other (specify) _____

Water Permit

Stream/Surface Take Damming Groundwater Take Diverting Water
 Other (specify) _____

Discharge Permit

Domestic Effluent to Land General Discharge to Land Farm Dairy Effluent to Land/Water
 Air Water
 Other (specify) _____

(7) Other Resource Consents required from the District Council:

Where other Resource Consents are required for the same activity, they must be applied for at the same time. Not doing so will delay the processing of this application.

What other Resource Consents are required from the District Council?

None Land Use Consent Subdivision Consent
 Have the applications been made? Yes No

(8) Description of the Activity:

Please briefly describe the activities and duration for which Consent(s) are being sought. It is important you fill this out correctly, as the Council cannot grant Consent for any activity you do not apply for.

Application is for a mussel spat catching farm off the west coast of 90 mile beach. The application is for 35 years

(9) Location of Property/Waterbody to which Application relates:

Describe the location in a manner which will allow it to be readily identified, e.g. street address, legal description, harbour, bay, map reference etc. Attach appropriate plans and/or diagrams.

Property Address: _____ **Locality:** Ninety Mile Beach
(see rate demand)

Legal Description: _____ **Blk:** _____ **SD:** _____

Other Location Information: 3.2km offshore Ninety Mile Beach

PART B – ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

You must include an assessment of the effects of your activity on the environment as part of your application.

The Resource Management Act 1991 requires that each application include an assessment of the actual and potential effects of the activity on the environment in accordance with the Fourth Schedule.

To assist you to supply this assessment of effects, the Council has prepared specific forms for various consent activities. For minor activities, all that will be required is for you to complete the specific form. Where the potential effects of the activity are more significant, we recommend you undertake a full assessment of effects, with professional assistance if necessary.

If you are unsure of what information to include with you application and the assessment of effects, please contact the Council before submitting your application. A pre-lodgement meeting with relevant Consent Staff is recommended.

PART C – GENERAL

(10) Renewal of an Existing Resource Consent:

Yes No A change in conditions of a current Resource Consent

(11) Fee/Deposit Enclosed with Application(s):

Application to be processed as: Notified Limited Notified Non-notified

<input checked="" type="checkbox"/> Coastal Permit: \$ <u>3217.50</u>	<input type="checkbox"/> Land Use Consent: \$ _____
<input type="checkbox"/> Water Permit: \$ _____	<input type="checkbox"/> Discharge Permit: \$ _____
<input type="checkbox"/> Bore Permit: \$ _____	<input type="checkbox"/> Change Conditions: \$ _____

(12) Signature of Applicant(s) or Persons authorised to sign on behalf of Applicant(s):

IMPORTANT NOTES TO APPLICANTS

- (a) Your application must be accompanied by the minimum fee (deposit) as determined by the Council. A schedule of the fee/deposits for different consent applications is annexed. Please note that applications by private trusts and other group entities require the personal guarantees of the Trustees and/or Officers for the payment of costs to be submitted with the application.
 - For complex applications, the Council may require an additional deposit pursuant to Section 36(3) of the Act, based on the estimated costs for processing such complex applications and may require progressive monthly payments during consent processing.
 - The final fee is based on actual and reasonable costs including disbursements and where this fee exceeds the fee/deposit, the additional fee is subject to objection and appeal.
- (b) All accounts are payable by the 20th of the month following the date of invoice. Any actual and reasonable costs, including but not limited to legal costs, debt collection fees or disbursements incurred as a result of any default in payment, shall be recoverable from the Applicant and is so notified in compliance with the Credit Contracts and Finance Act 2003. Submitting this Application authorises the Council to, if necessary, provide your personal information to a Credit Reporter in order to employ in its debt collection services in compliance with the Credit Reporting Privacy Code 2004, should payment default occur.
- (c) Resource Consents usually attract an annual fee to recover the reasonable costs of the Council's monitoring, supervision and administration of the Consent during its term.
- (d) The information you provide is official information. It will be used to process the application and, together with other official information, assist the management of the region's natural and physical resources. Access to information held by the Northland Regional Council is administered in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 1993.

I/we declare that, to the best of my/our knowledge and belief, the information given in this Application and attached Assessment of Environmental Effects is true and correct. I/we unconditionally guarantee jointly and severally to pay the actual and reasonable costs of processing this Application as and when charges become due and payable. I/we acknowledge that I/we understand the consequences of signing this declaration.

Signature: 

Signature: _____

Full Name (print): Jake Bartrom

Full Name (print): _____

Date: 15th July 2016

Date: _____

Continue with Trustees' and Authorised Officers' signatures below, as necessary.

Personal details and signatures of Trustees', or Officers authorised to sign on behalf of and to bind Trusts, Societies and Unincorporated Entities. * Private and Family Trusts only

Full Name and Status:
(Trustee, Officer etc)

Full Residential Address:

Signature:

Full Name and Status:
(Trustee, Officer etc)

Full Residential Address:

Signature:

Full Name and Status:
(Trustee, Officer etc)

Full Residential Address:

Signature:

Full Name and Status:
(Trustee, Officer etc)

Full Residential Address:

Signature:

CHECKLIST – Have you remembered to ...

- | | |
|--|---|
| <input type="checkbox"/> Complete all details set out in this Application Form | <input type="checkbox"/> Include a Site Plan |
| <input type="checkbox"/> Include an Assessment of Effects of the activity on the environment, set out in the attached form | <input type="checkbox"/> Include the appropriate fee/deposit as set out in the "Schedule of Fees" |
| <input type="checkbox"/> Sign and date the Application Form | <input type="checkbox"/> Complete details of Trustees and/or Authorised Officers on this page |